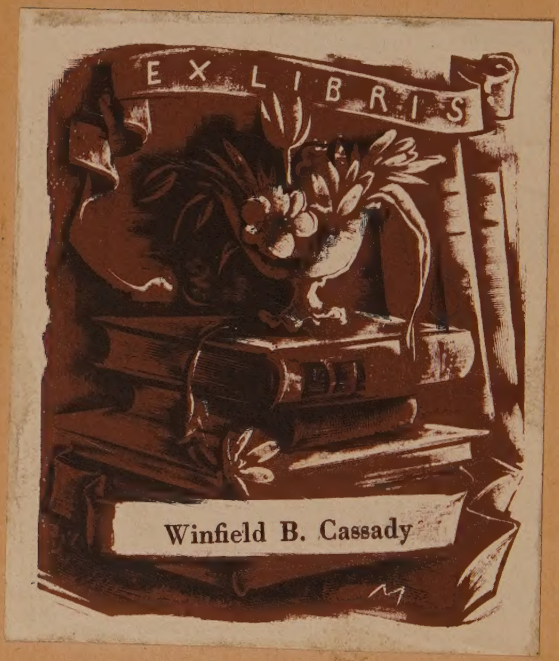
THE HISTORY OF MODERN ELEMENTARY EDUCATION

PARKER

UNIVERSITY
LIBRARY



A TEXTBOOK IN THE HISTORY OF MODERN ELEMENTARY EDUCATION

WITH EMPHASIS ON SCHOOL PRACTICE IN RELATION TO SOCIAL CONDITIONS

BY

SAMUEL CHESTER PARKER

ASSOCIATE PROFESSOR OF EDUCATION AND DEAN OF THE COLLEGE OF EDUCATION OF THE UNIVERSITY OF CHICAGO

GINN AND COMPANY

BOSTON · NEW YORK · CHICAGO · LONDON

COPYRIGHT, 1912, BY SAMUEL CHESTER PARKER
ALL RIGHTS RESERVED

514.12

YOUNGSTOWN UNIVERSITY
LIBRARY

The Athenæum Press
GINN AND COMPANY · PROPRIETORS · BOSTON · U.S.A.

LA
91
.P3
c. 2

DEDICATED
TO MY MOTHER

YOUNGSTOWN STATE UNIVERSITY
LIBRARY

72842

PREFACE

This book is constructed on the principles that have been applied in the making of some recent textbooks in history, such as Robinson's "History of Western Europe." These principles involve (1) the intensive treatment of a limited field; (2) emphasis on a relatively few selected movements, institutions, or individuals in this field as typical; (3) the discussion of the chosen topics in such a concrete way as to help the student to appreciate the reality of the historical development. These three principles are opposed to the sketchy encyclopedism that formerly prevailed in the construction of historical textbooks.

By confining the discussion to the history of modern elementary education it is possible to present a relatively continuous, connected narrative of institutional development that will contribute directly to the student's understanding of the problem of the elementary school. In carrying out this plan the author has endeavored to trace the development from the first city elementary vernacular schools of the Middle Ages down to the present time.

A definite attempt has been made to maintain a proper ratio between the three following elements: (1) descriptions of social conditions; (2) statements of educational theory; and (3) descriptions of school practice. The relations which have existed between these factors in the historical development have been demonstrated as far as possible.

In describing changes in social conditions, those have been selected concerning which the ordinary normal-school

or college student may be expected to have an elementary knowledge. Hence such concrete matters are presented as the growth of English cities and of town life in New England, the development of natural science, of religious toleration, of national governments, and of democracy, which the student's high-school courses in general history and in science prepare him to understand.

Changes in educational theories are traced in connection with social changes and with those educational movements and educational reformers that have directly modified elementary-school practice. Consequently many theoretical writers who have exerted little or no direct influence on practice are omitted from the discussion.

The developments in actual school practice — that is, the changes in the curricula and methods of school systems — are especially emphasized. These are not presented in an isolated way, however, but as definitely related to changes in social conditions and fundamental theory. Whenever a given movement can be typified by describing English or American conditions, this has been done. In some cases, however, such as the Rousseau movement or the secularizing of the Prussian school system, the importance of the continental European situation necessitates a lengthy description of it without special reference to its relation to the American development. About two thirds of the book is devoted to changes in elementary education since the publication of Rousseau's "Émile" in 1762. This emphasis on later developments is justified by the fact that relatively little change occurred in elementary education from 1500 to 1800, as compared with the revolutionary developments of the nineteenth century.

The emphasis on the secularizing of elementary education which occurs in the middle part of the book is intended simply as a statement of historical fact, not as discrediting the

importance of religion in public education. Personally I believe it is unfortunate that the historical development has tended to eliminate religious instruction from public elementary schools. I think Germany has been fortunate in having an administrative arrangement which permitted regular religious instruction in the secularized schools. But this belief in religious instruction does not alter the historical fact that perhaps the most important phase of the reform and improvement of elementary education during the later eighteenth and early nineteenth centuries was the liberation of such education from the control of ecclesiastics and its transference to the control of secular authorities.

The factors which have influenced the author in preparing this material include two years of graduate study under Professor Paul Monroe of Teachers College; five years' experience in teaching the history of education to normal-school and college students at Miami University in Ohio; and three years' experience in teaching the same to graduate students in The University of Chicago. Professor Monroe's course in the history of education in the United States, and Professor Cubberly's "Syllabus of the History of Education" have been very influential in developing the point of view described in this Preface. Professor Paulsen's little history of the German school system, entitled "German Education," which is almost an ideal example (for mature students) of the proper relating of social conditions, educational theory, and school practice, has been influential also in determining the selection of subject matter. Professor C. H. Judd stimulated the author to formulate some of the material in tentative form for publication in the *Elementary School Teacher*, and to undertake the preparation of the text. I am indebted to each of the following gentlemen for reading and criticizing some of the chapters: Mr. John F. Scott and Dr. M. W. Jernegan

of The University of Chicago, and Dr. I. L. Kandel and Professor W. H. Kilpatrick of Columbia University. Professor F. P. Graves of Ohio State University has very kindly read all the galleys and suggested many corrections and improvements. I have profited by the labors of some of my graduate students, who have located material relative to the development of the teaching of special subjects.

In spite of the great care which I have endeavored to exercise at all times, it is possible that erroneous statements may occur in the text. I shall be very glad to have reviewers, teachers, and students bring these to my attention.

S. C. PARKER

Chicago, Illinois

CONTENTS

PART I. INTRODUCTORY

CHAPTER I

MEANING AND SCOPE OF ELEMENTARY EDUCATION

PAGE

Arbitrary definition; preadolescent, native, vernacular education . . 3

CHAPTER II

RETARDED DEVELOPMENT OF ELEMENTARY VERNACULAR SCHOOLS IN THE MIDDLE AGES

Main points of the chapter 4
Review of Middle Ages necessary 5
Early Christian education significant for later development 5
Change from Christ's simple creed to elaborate Nicæan creed . . . 6
Development of Christian schools among German barbarians . . . 9
Native vernacular schools the last to develop 10
Latin schools very numerous; five types 14
Specialized professional and general education provided in the universities 15
Tardy development of vernacular literature: dominance of Latin . . 18
Commercial demands developed vernacular schools 24
Conflicts occurred between town and ecclesiastical authorities . . . 25
German cities developed Latin schools under municipal authorities . 26
Vernacular schools in cities, but rarely in villages, at end of Middle Ages 31
Bibliographical notes 31

PART II. ELEMENTARY SCHOOLS ON A RELIGIOUS BASIS

CHAPTER III

ELEMENTARY SCHOOLS FOR RELIGIOUS PURPOSES. THE REFORMATION

PAGE

Main points of the chapter 33
Place of vernacular education in Catholic and Protestant theory . . 34
Catholic and Protestant Reformations 36
Luther and Calvin leaders of sixteenth-century Protestant Reformation 38
Early English Reformation largely political 40
Puritans represent real spiritual element in English Reformation . . 41
The vernacular Bible; fundamental for Protestants, accessory for Catholics 42
The invention of printing and the Reformation developed a new reading public 46
Effect of Reformation on actual establishment of elementary schools in Germany 49
Classical schools to train leaders overshadowed elementary schools in Germany 49
Elementary schools in England after the Reformation 52
Puritan elementary schools in Massachusetts 55
Church and neighborhood schools prevailed in Pennsylvania . . . 62
Bibliographical notes 64

CHAPTER IV

ELEMENTARY SCHOOL CURRICULUM AND METHODS BEFORE THE NINETEENTH CENTURY

Main points of the chapter 66
Curriculum dominated by religious traditions 66
Calvinistic ascetic ideals prominent in Puritan literature 67
Narrow intellectual life a factor in narrow curriculum 71
Religious books used as reading texts 72
Primers replaced by spelling books (1740–1800) 77
Arithmetic common but not universal in colonial curricula 83
Two thirds of time wasted through poor equipment and methods . . 91
Bibliographical notes 93

CHAPTER V

IMPROVED CLASSROOM MANAGEMENT. BRETHREN OF CHRISTIAN SCHOOLS. MONITORIAL SYSTEMS

PAGE
Main points of the chapter 94
Two exceptional examples of improved class management 95
Christian Brethren organized to maintain free schools for the poor . 96
Teachers' manuals established definite standards and methods . . . 99
La Salle's practical innovation of simultaneous class instruction . . 99
Lancasterian monitorial system. Pedagogical talent of Bell and Lancaster 101
Monitors managed all routine matters, including recitations 103
Summary of improvements in Lancasterian system 104
Routine drill superior to habituation to shiftlessness 107
Bibliographical notes 107

PART III. TRANSITION TO SECULAR BASIS FOR ELEMENTARY EDUCATION

CHAPTER VI

DEVELOPMENT OF SECULAR INTERESTS

SCIENTIFIC DISCOVERY; RELIGIOUS TOLERATION; NATIONALISM; DEMOCRACY

Main points of the chapter 109
Development of secular interests destroyed religious control of education 110
Seventeenth-century investigations discredited Greek scientific theories 112
Modern scientific method. The inductive verification of hypotheses 114
English science popularized in France by Voltaire 121
Religious toleration opposed to ecclesiastical despotism 124
Development of strong centralized governments to rival ecclesiastical control: Prussia 125
Democracy furnished a nonreligious basis for universal education . . 130
Bibliographical notes 134

CHAPTER VII

TRANSITION TO SECULAR POINT OF VIEW IN EDUCATIONAL THEORY: COMENIUS AND LOCKE

PAGE

Main points of the chapter 135
Secular view of elementary education occasional in the seventeenth century 135
Comenius — theory of universal, encyclopedic, vernacular education 136
Occasional instances of reforms of vernacular schools on Comenian principles 148
Notable reforms in duchy of Gotha 149
John Locke; preëminent as a thinker in four lines, including education 150
"Thoughts on Education" published 1693 152
Aims of education secular but not irreligious 154
Locke, one of chief sources of German pedagogy 159
Bibliographical notes 159

CHAPTER VIII

THE EMOTIONAL REACTION AGAINST RELIGIOUS AND ARISTOCRATIC FORMALISM — ROUSSEAU

Main points of the chapter 161
Calvinistic repression of children's activities and emotions 162
Religion an empty formula for educated Frenchmen in eighteenth century 163
Aristocratic formalism. Drawing-room life and the "dancing-master" education 164
Rousseau's life and character 172
Rousseau's emotionalism the antithesis of Puritan repression . . . 175
Rousseau substituted faith and inward worship for religious ceremonialism 176
Rousseau popularized enjoyment of natural scenery 177
Idealized romantic love and simple domestic life 178
Rousseau's influence greatest in Germany; Goethe and Schiller . . 179
Bibliographical notes 180

CHAPTER IX

EDUCATION BASED ON THE CHILD'S INSTINCTS AND CAPACITIES — ROUSSEAU'S "ÉMILE"

Main points of the chapter 181
Rousseau's "Émile" the inspiring source of nineteenth-century educational reforms 182

PAGE
Influence of the "Émile" on subsequent practice to be emphasized 185
Periods in the maturing of children; not miniature adults 188
Physical activity essential in the maturing of children 191
Sense perception fundamental in elementary education 193
Maturing of children's capacities for reasoning and memorizing . . 195
Present interest, curiosity, and utility furnish motives for study . . . 201
Revolutionary character and validity of Rousseau's proposals . . . 205
Bibliographical notes 207

CHAPTER X

SECULARIZING AND NATIONALIZING TENDENCIES IN PRUSSIAN SCHOOLS IN THE EIGHTEENTH CENTURY

Main points of the chapter 208
Secular interests focused on educational reform by Rousseau's "Émile" 209
Agitation for nonsectarian, national education: Basedow 209
A model secular school for children of means: Salzmann 212
Secular schools for peasant children: Rochow 215
Official steps for secularizing Prussian schools 217
Four important official enactments 218
Fundamental Prussian legal code (1794) defined schools as state institutions 223
Bibliographical notes 224

CHAPTER XI

SECULARIZING TENDENCIES IN ENGLISH ELEMENTARY EDUCATION

Main points of the chapter 226
Development of secular schools in England greatly retarded 227
Education considered a matter of family and Church monopoly . . 227
Voluntary agencies depended on for elementary schools for poor . . 229
Social changes of eighteenth century prepared for educational reform 234
Parliamentary acts in the direction of secular schools, 1833, 1839, 1870 237
Bibliographical notes 239

CHAPTER XII

DEVELOPMENT OF AMERICAN SECULAR SCHOOL SYSTEMS

PAGE

Main points of the chapter 240
New York City, Pennsylvania, Massachusetts, and Indiana are typical 240
New York City. Schools developed by voluntary philanthropic societies 242
Free School Society incorporated, 1805 243
New York City Board of Education created, 1842 246
Pennsylvania's public pauper-school system 247
Free pauper education in private schools provided, 1802 247
Public tax-supported schools made optional, 1834 248
The degenerate district-school system of Massachusetts 250
Social factors in decline of Massachusetts schools 251
Horace Mann, secretary of Massachusetts Board of Education, 1837 258
Indiana; struggle to carry out liberal constitutional provision for public schools 259
Law of 1849; local tax optional in counties 262
Free schools stimulated by the Lancasterian monitorial system . . . 264
Bibliographical notes 271

PART IV. SECULARIZED ELEMENTARY EDUCATION

CHAPTER XIII

THE PESTALOZZIAN MOVEMENT IN EUROPE AND AMERICA

Main points of the chapter 273
Directly inspired by Rousseau's revolutionary books 274
Pestalozzian principles 276
Pestalozzi's career in relation to the social development in Switzerland 281
Spread of Pestalozzianism 290
The movement in Switzerland 291
Pestalozzian schools a large factor in Prussian social reform 291
Formalized Pestalozzianism in England 295
Pestalozzianism in America 297

PAGE
Pestalozzian teacher imported, 1806 297
Pestalozzian theories diffused by periodicals and official reports . . . 297
Oswego movement; English Pestalozzianism imported, 1860 . . . 300
Bibliographical notes 303

CHAPTER XIV

PESTALOZZIAN INDUSTRIAL EDUCATION FOR JUVENILE REFORM

Main points of the chapter 304
Summary of the movement by Barnard, 1854 305
General appreciation of necessity of industrial training for juvenile delinquents 306
Domestic industries the basis of Pestalozzian industrial education . . 308
Pestalozzi's writings described degraded condition of Swiss peasantry 309
Pestalozzi taught farming and textile work at Neuhof, 1774 313
Emanuel Fellenberg's Pestalozzian institutions 313
Redemption industrial plan imitated in other European countries . . 317
American manual-labor schools mostly for higher education 318
American reformatories little affected by Pestalozzian principles before 1873 319
Bibliographical notes 321

CHAPTER XV

PESTALOZZIAN OBJECT TEACHING AND ORAL INSTRUCTION

ELEMENTARY SCIENCE; HOME GEOGRAPHY; PRIMARY ARITHMETIC

Main points of the chapter 323
Pestalozzi's most important principle of instruction 324
Objective teaching introduced oral instruction 327
From object teaching to elementary science, to nature study 331
Scientific classifications and terminology emphasized 334
Practical reasons for introducing natural science 336
Nature study takes psychological point of view 338
Pestalozzian-Ritter geography 340
Pestalozzian-Ritter geography in the United States 347
Pestalozzian primary arithmetic 349
In America: Warren Colburn's "Intellectual Arithmetic," 1821 . . 353
Bibliographical notes 356

CHAPTER XVI

PESTALOZZIAN FORMALISM; DEGENERATE OBJECT TEACHING — SIMPLE TO COMPLEX

PAGE

Main points of the chapter 359
Pernicious elements in Pestalozzianism 359
Herbert Spencer described Pestalozzian formalism in England . . . 361
English books of object lessons became manuals for memorizing . . 362
Proceeding from simple to complex. Favored by Spencer 365
Pestalozzi would organize an alphabet of every subject 366
Thorough mastery of elements in arithmetic; Grube method . . . 369
Criticism of proceeding from simple to complex; William James . . 371
Bibliographical notes 374

CHAPTER XVII

MORAL TRAINING THROUGH A METHODICAL INTERESTED STUDY OF HISTORY AND LITERATURE: THE HERBARTIANS

Main points of the chapter 375
Pestalozzians commonly neglected history and literature 376
Herbart's metaphysics a useless encumbrance to his pedagogy . . . 379
Herbart profoundly influenced by new Humanism 382
Herbart made the Odyssey the basis of moral instruction 386
Herbart emphasized many-sidedness of interest as the aim of instruction 388
Herbart emphasized the humanistic aim of historical studies 392
Interest. Advocated as a means by Rousseau and Herbart 393
Apperception. Instruction to be adapted to child's experience . . . 395
General method 398
Correlation. Organization of subject matter for moral ends 401
The Herbartian movement. Historical development in Germany . . 403
Historical development in the United States 404
Practical aspects of the Herbartian movement. Use of historical and literary materials 405
Development of the teaching of history in America 409
Development of the teaching of literature in America 413
Correlation. Ziller advocated concentration around a few centers . . 419
Culture-epochs theory to determine sequence of subject matter . . 422
The five formal steps. Applied to instruction units by Ziller 425
Bibliographical notes 429

CHAPTER XVIII

EDUCATION THROUGH MOTOR EXPRESSION AND SOCIAL PARTICIPATION; THE FROEBELIANS

PAGE
Main points of the chapter 431
Froebel continued and supplemented the Rousseau-Pestalozzi movement 432
Froebel's career and character 433
Froebel's educational theory. His curriculum 436
Symbolism 439
Education through motor expression 441
Education through social participation 445
The kindergarten 447
Kindergarten in the United States 454
Modification of Froebelian kindergarten theory and practice . . . 457
The manual-training movement 460
Froebel one influential factor in a general movement 461
Manual training in the United States 464
The broader Froebelian theory applied to elementary education by F. W. Parker and Dewey 470
Dewey's ideas dominant in reconstructing contemporary educational theory 474
Modern biological psychology emphasizes motor expression: William James 479
Speech and inhibition fundamental in civilized activity: Thorndike . 480
Central thought processes, not muscular movement, most significant: Judd 481
Bibliographical notes 484

CHAPTER XIX

CONCLUSION; PRESENT TENDENCIES

Summary of development from 1300 to 1900 487
Recent tendencies: vocational; civic; individual; scientific . . . 489

INDEX 491

ILLUSTRATIONS

PAGE

Tower of Knowledge (from the "Margarita Philosophica" of Gregory de Reisch, 1504), showing stages in medieval education. *From the Library of G. A. Plimpton* 12

Lecture room in the University of Tübingen, Germany, about 1580. *From a print in the collection of G. A. Plimpton* 17

Buildings of the University of Tübingen, in the sixteenth century. *From a print in the collection of G. A. Plimpton* 19

A Medieval Latin Grammar School, Nuremberg, 1500 27

Two quaint pictures of old-time schools of uncertain date. *From the collection of C. H. Thurber* 51

Earliest known picture of a Hornbook. From a manuscript of Scarabasco written about 1400. *From the Library of G. A. Plimpton* . 69

A Hornbook. From the time of Charles II. *From the Library of G. A. Plimpton* 70

Battledoor Book. *From the collection of G. A. Plimpton* 72

Specimen page from "The New England Primer" 73

Specimen page from "The New England Primer" 75

Specimen page from "The New England Primer" 76

Specimen page from "The Royal Primer." Authorized by King George II. *From the Library of G. A. Plimpton* 77

Title-page of Coote's "English School-master," London, 1692. *From the Library of G. A. Plimpton* 78

An Improved Method of teaching Reading from John Brinsley's "The Grammar Schoole," published in England, 1612. *From the Library of G. A. Plimpton* 79

Specimen page from Dilworth's "New Guide to the English Tongue," London, about 1750. *From the Library of G. A. Plimpton* . . . 80

Frontispiece of the author, from Dilworth's "New Guide to the English Tongue." *From the Library of G. A. Plimpton* . . . 81

Specimen pages of Fenning's "Universal Spelling Book" (London, 1787). *From the Library of G. A. Plimpton* 82

Specimen pages from Hodder's "Arithmetic," Boston, 1719. The first arithmetic printed in America. *From the Library of G. A. Plimpton* 83

PAGE

Title-page of Greenwood's "Arithmetic." By Professor Isaac Greenwood of Harvard College, Boston, 1729. *From the Library of G. A. Plimpton* 84

"The American Instructor, or the Young Man's Best Companion." By George Fisher, Philadelphia, 1787. *From the Library of G. A. Plimpton* 91

The Tree of Knowledge. From "A Short Introduction of Grammar generally to be used" (Oxford, 1709). *From the Library of G. A. Plimpton* 97

The Tree of Knowledge. From Rusher's "Reading Made Easy." Of a somewhat later date than the preceding illustration. *From the Library of G. A. Plimpton* 98

Old-time Method of Individual Instruction. The original is from the page of Hornbye's "Horne-book" published in 1622. *From the Library of G. A. Plimpton* 101

A plan of a Lancasterian Monitorial Schoolroom. From "The Lancasterian System of Education with Improvements." By Joseph Lancaster, Baltimore, 1821 102

Lancasterian Monitorial System. From Joseph Lancaster's book published in Baltimore in 1821 105

Sir Isaac Newton 115

Francis Bacon 118

Voltaire 121

John Amos Comenius. Portrait from "The Gate of the Latin Tongue Unlocked," London, 1656. *From the Library of G. A. Plimpton* . 137

Specimen page from the "Orbis Pictus" of Comenius, illustrating lesson on a natural-history topic. Edition of 1705, London. *From the Library of G. A. Plimpton* 144

Specimen page from the "Orbis Pictus" of Comenius. Illustrates a lesson on an industrial process. *From the Library of G. A. Plimpton* 145

Specimen page from the "Orbis Pictus" of Comenius. Illustrates a lesson on a social custom. *From the Library of G. A. Plimpton* . 147

John Locke. From an engraving of the original picture by Sir G. Kneller in the hall of Christ Church, Oxford, England 151

A French School of the Seventeenth Century. Redrawn by a modern artist from an old woodcut by Abraham Bosse (1611–1678). *From the collection of G. A. Plimpton* 165

Rousseau. From "Emilius and Sophia"; or, a New System of Education translated from the French of J. J. Rousseau, London, 1767. *From the Library of G. A. Plimpton* 173

PAGE

Salzmann's System of Gymnastic Training. An illustration from C. G. Salzmann's "Gymnastics for Youth; or a Practical Guide to Healthful and Amusing Exercises for the Use of Schools. An Essay toward the Necessary Improvement of Education chiefly as it relates to the Body." (A translation printed by William Duane, Philadelphia, 1802. The original German probably appeared in 1793.) *From the Library of G. A. Plimpton* . . . 213

A Dame School in London from 1834 to 1870. From Bartley's "The Schools for the People," London, 1871 231

An Eighteenth-Century Schoolroom. Reproduced by permission of the author from Monroe's "Text Book in the History of Education" (The Macmillan Company) 278

Two pictures of Pestalozzi's School at Stanz. Showing conceptions of different artists. Reproduced by courtesy of the publisher from Barnard's "Pestalozzi and his Educational System" (C. W. Bardeen, Syracuse) 287

Two views of Fellenberg's Institute at Hofwyl. Reproduced by permission of the editor from Monroe's "Cyclopædia of Education" (The Macmillan Company) 315

A Pestalozzian Number Chart 351

Johann Friedrich Herbart (1776–1841). *From the collection of C. H. Thurber* 377

The Game of Pat-a-Cake. Reproduced by permission of the publishers from "The Mottoes and Commentaries of Froebel's 'Mother Play'" (D. Appleton and Company) 449

Method of playing with Froebel's First Gift — a Ball. Reproduced by permission of the publishers from Froebel's "Pedagogics of the Kindergarten" (D. Appleton and Company) 451

Construction of "Forms of Beauty" with Froebel's Fifth Gift — Blocks. Reproduced by permission of the publishers from Froebel's "Pedagogics of the Kindergarten" (D. Appleton and Company) . . 453

After Luncheon in Dewey's Reconstructed Kindergarten, 1900. Reproduced by permission of the publishers from the *Elementary School Record* (University of Chicago Press) 459

Example of Historical Constructive Work in Dewey's Elementary School, 1900. Reproduced by permission of the publishers from the *Elementary School Record* (University of Chicago Press) 476

Training in Expression in Dewey's Elementary School, 1900. Animals modeled in clay by children six years old. Reproduced by permission of the publishers from the *Elementary School Record* (University of Chicago Press) 478

SUPPLEMENTARY READINGS

In addition to the other parallel and supplementary readings which the instructor using this book may outline for students, the author suggests that the following sources be read carefully by all the students and discussed or studied in class. For this purpose one copy of each book reserved in the library for every five or six students should be sufficient, or the first three may be purchased by the students in cheap editions for a total price of about $1.00. Read No. 1 in connection with Chapter IX; No. 2 with Chapter XIII; No. 3 with Chapter XVI; and No. 4 with Chapter XVII.

FOR ALL STUDENTS

1. ROUSSEAU J. J. *Émile.* Either the Appleton edition translated by Payne ($1.50 list) or the Heath edition (paper, 25 cents; cloth, 90 cents). In the *Émile* the student will become acquainted with most of the reform tendencies of the nineteenth century, presented in a form to provoke thought and discussion. Read Rousseau's preface and Books I, II, and III, especially II and III.

2. PESTALOZZI, H. *Leonard and Gertrude.* (Heath edition: paper, 25 cents; cloth, 90 cents). This work serves to make students feel personally acquainted with Pestalozzi and the Swiss social situation in which he worked. It can be read in a few hours, and is easy and interesting.

3. SPENCER, HERBERT. *Intellectual Education* (the second chapter of Spencer's work on education which may be purchased for 40 cents). The chief reason for reading this chapter is for its critical description of English Pestalozzianism. It is valuable, however, for many other points; for example, for its statement of the parallelism between general social development and educational changes.

FOR ADVANCED STUDENTS ONLY

4. HERBART, J. F. *Outlines of Educational Doctrine.* (The Macmillan Company.) This book differs from the other three in that it is difficult to understand. Consequently it should be omitted with immature students. It is valuable, however, as a *relatively* simple presentation of Herbart's theories of the aim of education, of interest, the formal steps, etc. Omit the fine print. Also omit such paragraphs as Nos. 2, 3, 30, 31, 32, 33, etc., which relate to Herbart's metaphysics and his mechanical psychology. Emphasize pp. 44–139, especially 44–92.

KEY TO BIBLIOGRAPHICAL REFERENCES

The books from which quotations are made in the text are included in the bibliographies which are printed at the ends of the chapters. The source of each quotation is indicated (usually at its end) by two figures in parenthesis. The first figure refers to the book by its number in the bibliography at the end of the chapter, and the second figure refers to the page, or paragraph if the sign for the latter is used. Thus (**4**: 76) means page 76 in the fourth book in the chapter bibliography. This system has been adopted in order that the instructor or advanced student may verify or follow up any quotation, but at the same time the ordinary student will not be distracted by numerous footnote references which are unimportant in his work.

THE HISTORY OF MODERN ELEMENTARY EDUCATION

PART I. INTRODUCTORY

CHAPTER I

MEANING AND SCOPE OF ELEMENTARY EDUCATION

The purpose of this text is to trace the development of modern elementary education in Western Europe and in the United States. The terms "elementary education" and "elementary school" are so well known as to seem to need little defining. Nevertheless, it may make the scope of the text somewhat clearer to say a few words about their meaning.

Elementary schools named according to content of curriculum. — In the actual development of elementary schools in Europe we shall find that various terms were used at different periods to designate such schools, and that these terms often indicated what was taught in them. For example, under certain conditions in the Middle Ages, when some of these schools were intended primarily to train a limited number of children to sing in the church services, they were known as song schools. Under other conditions in the Middle Ages and later, when in the commercial cities they were intended primarily to train children to write, such schools were known as writing schools. In Germany during the same period such schools as were intended to train children to read the vernacular were known as Deutsche (German) schools, to distinguish them from the more common type of Latin schools. This name (German schools) seems to have been the one most commonly used in Germany for a long time.

This type of name was made general in its application to such schools in all countries by Comenius, the seventeenth-century educational reformer, who used the term "vernacular schools" to distinguish them from the Latin schools. All of the names mentioned in this paragraph were suggestive of what was taught in the schools.

Elementary schools named for classes for whom intended. — An entirely different basis of naming is suggested by the German term Volksschulen (people's schools) and the English term "common schools," which probably came into general use later than the terms mentioned in the previous paragraph. Instead of designating the content of the curriculum, these terms designate the social classes for whom the schools were intended, and sometimes have suggested social class distinctions. Certainly in Germany it was felt that the Volksschulen were intended only for the children of the nonprofessional and poorer classes. The same suggestion has been contained for many persons in the English term "common schools" (the schools for the common or ordinary people); but in recent years, under the democratic conditions in the United States, this term has come to suggest schools for all classes in common, that is, without distinction. It also designates schools supported by common tax or public funds.

Elementary Latin schools distinguished from elementary vernacular schools. — If we should think of elementary schools as designating the schools which the younger children attended, we should have to include, in addition to the above, the Latin schools of medieval and Renaissance Europe. Very commonly children entered upon the study of Latin as early as six years of age and spent all their early years in such study. Even at the present time (1912), in some European countries children enter such schools at nine years of age; and the period from nine to fifteen, which in America is considered a part of the elementary-school period, is spent in so-called secondary schools.

Arbitrary definition; preadolescent, native, vernacular education. — In view of these facts it will be necessary, in order to secure a definite basis for the selection of material for our study, to choose some definite sense in which we shall use the terms "elementary education" and "elementary schools." But owing to the rapid changes which took place in the nature of elementary education during the nineteenth century (and are still taking place) it is almost impossible to define it. Consequently we shall say arbitrarily that for our purposes the term "elementary education" is used to denote education which, first, has been provided for children who have not passed the early stages of adolescence, that is, are under thirteen to fifteen years of age; and which, second, has for its primary aim to give children a command (appreciation and control) of the vernacular language and literature and other aspects of the native civilization or culture, including science, art, and industry. This arbitrary statement excludes most secondary education down to the latter part of the nineteenth century, for until such time the mastery of foreign languages was considered the most important work of the secondary schools. The age limit in the statement excludes recent developments in some secondary schools which have eliminated the study of foreign languages from the work of certain classes of students.

In the chapter on Medieval Education a few words will be said about the development of the Latin schools and the universities, as this will throw some light on the retarded development of elementary schools during the same period; but in the later chapters these higher schools will not be considered.

CHAPTER II

RETARDED DEVELOPMENT OF ELEMENTARY VERNACULAR SCHOOLS IN THE MIDDLE AGES

To the student. — At the beginning of each chapter will be found a brief statement of its main points. This should be read in order to get the general drift of what is to come, but need not be learned until the chapter is finished, when it may be studied as a summary of the chapter. The pedagogical value of reading these summaries is stated in the quotation from Herbart on page 397 of this text.

Main points of the chapter. — 1. The history of modern elementary education may be said to begin about the fifteenth century, but a brief review of medieval social and educational conditions will be helpful in appreciating later developments.

2. The condition of the barbarian German tribes of northern Europe has been compared to that of the American Indians in 1492. It took approximately one thousand years (400 to 1400 A.D.) for the Germans to reach a condition of civilization in which elementary vernacular schools were needed to any considerable extent.

3. The desire to promote Christian spiritual interests impelled the Roman Catholic Church to maintain schools, and the necessity of permitting only orthodox instruction impelled it to monopolize the control of education in all of Western Europe.

4. These Church schools taught a foreign language, Latin. The use of Latin in medieval Europe tended to retard the development of the vernacular languages and literatures and consequently of native vernacular schools.

5. To understand this retarding influence it is necessary to appreciate that Latin was almost the exclusive language of the educated classes (clergy, lawyers, physicians, scientists, diplomats) during the Middle Ages.

6. Such vernacular literature as existed (tales and sermons) was transmitted orally and furnished no great stimulus for elementary vernacular schools, although such schools were probably maintained sometimes by parish priests.

7. The first considerable demand for such schools arose from the need for training in writing and reckoning in the commercial cities which developed between 1100 and 1400.

8. Special writing and reckoning schools, as well as vernacular reading schools, were established under the sanction of the civil authorities in these new self-governing cities. This sometimes involved a conflict with the ecclesiastical monopoly of education.

9. This commercial demand for elementary vernacular education was restricted to the larger commercial cities, however, and at the end of the Middle Ages there were few elementary vernacular schools in the villages or rural districts.

Review of Middle Ages necessary. — Ordinarily the history of modern Europe is dated from the fifteenth and sixteenth centuries. By that time the development of cities, of fairly definite nationalities, of vernacular literatures, and other forces, had marked off rather definitely the social types and forms of social organization that continued to play a prominent part in the development of Western Europe down to the present time.

The history of modern elementary education dates from the same period, and at that point, it might seem, should begin our account. But just as in the general history of modern Europe it is necessary to study certain of the antecedent conditions in order to appreciate later developments, so in the case of modern elementary education it will be helpful to review briefly certain fundamental factors in European social life and education which took form during the Middle Ages.

Early Christian education significant for later development. — In Western Europe and in America, until after 1800, elementary education was very commonly provided and controlled by the Christian churches, and was organized primarily to train children in the Christian religion. Since 1800, however, conditions have so changed that in many places the Christian religion, in fact all religion, has been excluded from the elementary schools.

In view of the prominent part played in elementary education by religion and the church, it will be worth while to study briefly the origin of the religious interest in education and the almost exclusive control of the latter by ecclesiastics for over a thousand years. In doing this it will be necessary to go back to the beginnings of Christian education and to note under what conditions Christianity was adopted by the German barbarians, who were to become the nations of modern Europe. This we shall do now in a brief way.

Schools were organized to promote spiritual Christian life. — The early interest of the Christian church in education is explained by its desire to spread the new religion, and the consequent necessity of initiating converts into its mysteries and of training priests who could preach the gospel. It might seem that only elementary or lower schools would be necessary for this purpose, but the development of higher schools for the advanced philosophical study of religion was made necessary (1) by competition with the philosophical aspects of pagan religions, and (2) by the great variety of interpretations of the Scriptures which were made by differing factions among the Christians, and the desire which each party felt of justifying its particular interpretation. This resulted in thousands of volumes of commentaries and interpretations, which were written about the Scriptures, so that by the end of the Middle Ages years of university study were considered necessary to be able fully to understand what true Christianity is. This elaboration of the intellectual element in the Christian religion, as distinguished from the simpler religion of faith and love, was taking place, however, even during the first century of Christianity. We shall note certain examples of this change to make its meaning more concrete.

Change from Christ's simple creed to elaborate Nicæan creed. — According to the standards of some of the early Christians, the only test of a true Christian life was spiritual and moral, namely, the acceptance of the simple, obvious

teaching of Christ concerning how a Christian should behave, and the leading of such a righteous life as he outlined. Faith and love, and life according to the Golden Rule, were the standards. A slightly more involved creed or test of the convert's belief is found in the statement of Paul in the Epistle to the Romans (x, 9): "If thou shalt confess with thy mouth the Lord Jesus, and shalt believe in thine heart that God hath raised Him from the dead, thou shalt be saved." A still more complex belief is implied in the commission given by Christ to the apostles (Matt. xxviii, 19): "Go ye therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost."

By the second century after Christ even more complicated confessions of faith had become current. These various confessions differed in many respects, the adherents of each statement maintaining that all others failed to represent true Christianity. These differences and the resulting strife culminated in 325 A.D. in the Council of Nicæa in Asia Minor, which was attended by about three hundred bishops or leaders in different Christian communities. This council agreed on the following creed, which differs somewhat from the later, more simplified form of the Nicæan creed:

> We believe in one God, the Father Almighty, maker of all things both visible and invisible; and in one Lord, Jesus Christ, the Son of God, begotten of the Father, only begotten, that is to say of the substance of the Father, God of God and Light of Light, very God of very God, begotten not made, being of one substance with the Father, by whom all things were made, . . . who for us men and for our salvation came down and was made flesh, etc. (4.)

This quotation of a part of the original Nicæan creed shows how the intellectual element in the Christian belief was becoming larger and larger. The concluding phrases of one form of the Apostles' Creed, "I believe in the Holy Ghost, the Holy Church, the remission of sins, the resurrection of the flesh, everlasting life," furnish another example of the

YOUNGSTOWN UNIVERSITY
LIBRARY
72842

increasing amount of material that the Christian convert was required to memorize and believe.

Orthodox priests trained in schools of the bishops. — The differences in the interpretations of what true Christian belief included, made it seem very important that only those who held the accepted, authorized or orthodox doctrine should be allowed to preach and teach in any given region. The training of such religious leaders or priests to expound the orthodox doctrine resulted in organized schools in charge of the bishops. Here the priests studied not only the Scriptures but also more or less of the large body of interpretative doctrine or dogma, which was considered as important a part of the religious tradition as the Scriptures themselves.

Highly developed Roman schools Christianized.— Such was the basis of the development of Christian education among the highly civilized peoples inhabiting those portions of the Roman Empire which lay around the Mediterranean. In Western Europe this included what is now Italy, Spain, and southern France (Gaul). In the fifth century city life and Roman schools were as highly developed in Gaul as in Rome itself; in fact many of the leading Roman scholars, writers, and statesmen of this period were reared north of the Pyrenees. In such a situation elementary and secondary schools were already organized. It was simply necessary to Christianize existing schools in order to provide Christian education. Special religious instruction for adults as well as children was provided by the priests, who, trained in the schools of the bishops, preached and taught the elements of Christianity to the people. Those adults who desired a more intense religious life, unhampered by contact with the world, formed communities of monks and retired into monasteries, where they worked and studied. They also established schools to test and train young boys who professed a desire to join the monastic order. Later, lay youth were sometimes admitted to such schools.

Development of Christian schools among German barbarians a different problem. — It was not among the civilized inhabitants of Gaul, however, that the system of elementary education in which we are interested was developed. The Roman schools of Western Europe north of the Alps disappeared under the avalanches of migrating German tribes, and several centuries passed before systems of elementary schools, teaching the new vernaculars (French, German, English, etc.), came into existence.

Outline of migrations of German barbarians. — A glance at the following outline by Cubberly (**1** : 60) will serve to recall the chief events in these barbarian migrations, from the movements of Alaric at the end of the fourth century A.D. to the attacks of the Northmen in the eighth and ninth centuries.

The Goths invaded the Eastern Roman Empire (166–378); the Visigoths under Alaric invaded Italy and Spain (395–414); and the Ostrogoths moved into Italy (490–493).

The Vandals and Sueves left the mouth of the Danube (378), moved west and south, crossed into Spain (409) and into Africa (429).

The Burgundians reached the Rhine frontier (*c.* 290) and settled near the present city of Worms (413).

The Huns appeared on the Volga (375), and under the leadership of Attila ravaged Gaul and Italy (449–454) and then returned to the Danube.

The Angles, Saxons, and Jutes settled in Kent (443–449), in Sussex (477), and in Wessex (485).

The Northmen began their attacks on the English coast (787), overran Northumbria, and plundered and burned the churches and monasteries (866).

Peace of Wedmore (878). Alfred ceded one half of England north of the Thames to the Danes.

The Franks, a great nation living along the lower Rhine (475), extended their power to the west and south (486–530).

Social condition of German barbarians like that of American Indians.—The social condition of the German barbarians is concretely suggested by Adams's comparison of them with the American Indians at the time of the discovery of America, as follows:

> They were . . . children in knowledge and understanding; in the actual point of civilization which they had reached by themselves, scarcely, if indeed at all, above the level of the best tribes of North American Indians. . . . In very many ways — in ideas, in dress, in habits and ways of living, in methods of warfare and diplomacy — the parallel is very close and interesting; and if we can imagine a civilized land taken possession of by bands of warriors not materially above the best of our Indians in actual attainment, though superior to them in spirit and in moral tone, the picture will not be far wrong. (2: 7.)

A thousand years to develop new civilization. — It took approximately one thousand years for the German barbarians to begin to approach in culture and civilization the people living around the Mediterranean in the fifth century. In this thousand years they developed national characteristics as Germans, French, English, Scotch, etc. They changed from wandering tribes to settled agriculturalists. They built cities. Their crude oral legends developed into a written literature, including works considered classic at the present time.

Native vernacular schools the last to develop. — Needless to say, the problem of developing Christian education among the barbarians was quite different from what it had been among the civilized Romans. Elementary schools, based on a study of the native languages and literature, were the last to develop because their existence depended on the tardy development of the native civilization or culture. On the other hand, secondary and higher schools, giving instruction in a foreign language (Latin), were very early developed under the aggressive campaign of conversion and education conducted by the Roman Catholic Church. A few facts concerning this development will be reviewed.

Roman Catholic Church gradually became dominant. — We have seen how Christian tradition, dogma, and literature developed among the cultured peoples around the Mediterranean. Rome had been the political center of this region and became the controlling religious center for most of Western Europe. The head of the local Christian community at Rome,

namely, the bishop of Rome, for various reasons which are set forth at length in the general histories, gradually came to be considered by the Christians of Italy and Spain and Gaul as the leader of the Christians in the West. Thus the bishop of Rome became the Pope of the Western Church.

Latin became the official language of the church. — The Latin language was the universal language of the educated in the Western Roman Empire. It was also the language in which the standard (orthodox) translation of the Scriptures (the Vulgate of Jerome, fourth century) and many of the most important Christian books were written. Hence Latin naturally became the official language of the Catholic Church.

Catholic Church active in Christianizing the Germans. — Following the injunction of Jesus to his disciples to go forth and preach the gospel to the whole world, the Roman Catholic Church was untiring in its efforts to convert the northern barbarians. Some of the notable conversions are dated as follows. (1 : 162.)

440 St. Patrick converted the Irish.
496 Clovis, king of the Franks, became a Christian.
587 Reccared, king of the Goths of Spain.
597 Ethelbert, king of Kent.
626 Edwin, king of Northumbria.
635 The English of Wessex.
681 The South Saxons.
878 Gunthrum, the Dane, by the Peace of Wedmore.
912 Rollo, duke of the Normans.
967 Boleslav II, king of the Bohemians.
972 The Hungarians.

Church active in establishing schools among barbarians; these not indigenous. — In order to develop native priests among these barbarians it became necessary not only to establish schools for moral and religious discipline, but also to teach prospective priests the rudiments of reading and the Latin language. As we have seen, a knowledge of Latin was necessary for an introduction to the Scriptures and other religious

TOWER OF KNOWLEDGE (FROM THE "MARGARITA PHILOSOPHICA," 1504), SHOWING STAGES IN MEDIEVAL EDUCATION

See note on opposite page

writings. These schools provided by the Christian Church were for a long time the only schools in existence among the barbarians, and other schools, when they did come into existence, were offshoots of the Church schools. Consequently practically all the learning to be found among the Germans consisted of the Christian literature and such a part of the old Greek and Roman culture as the churchmen cared to preserve and study. For this the Church deserves credit which is sometimes denied to it. Thus we find that the first important schools established among the barbarians of northern Europe possessed the following characteristics: (1) They were not a natural development in connection with native culture, but were founded under foreign influence. (2) They taught a foreign language, not the native tongue. (3) They were largely selective in purpose, that is, designed not to train the masses but to select and train those who were to be leaders in religious life. These three characteristics were dominant in European education down to the twelfth or thirteenth centuries.

As compared with the Latin schools, elementary vernacular schools were tardily developed. There could be no large demand for such schools until the vernacular languages and

---

Explanation of picture of Tower of Knowledge

"The youth (seen at the left) having mastered the Hornbook and the rudiments of learning, advances toward the temple of knowledge. Wisdom is about to place the key in the lock of the door of the temple. Across the door is written the word *congruitas*, signifying Grammar. On the first and the second floors of the temple he studies the Latin Grammars of Donatus and of Priscian, and at the first stage at the left on the third floor, he studies the Logic of Aristotle, followed by the Rhetoric and Poetry of Tully, thus completing the *Trivium* (Grammar, Rhetoric and Logic). The Arithmetic of Boethius also appears on the third floor. On the fourth floor of the temple he completes the studies of the *Quadrivium*, taking in order the Music of Pythagoras, Euclid's Geometry, and Ptolemy's Astronomy. The student now advances to the study of Philosophy, studying successively Physics, Seneca's Morals, and the Theology (or Metaphysics) of Peter Lombard, the last being the goal toward which all has been directed." (1 : 85.)

literature had reached a certain degree of development. This development was retarded by the dominance of the classical languages in the schools and in the intercourse of all educated classes. The best thinkers were educated, and taught and wrote, in Latin so exclusively that little motive, energy, or genius was left for the development of the native languages and literatures.

Latin schools very numerous; five types. — The following outline shows the kinds of schools teaching the Latin language, which grew up between 500 and 1500 A.D.:

1. *Episcopal or Cathedral schools.* — These were called Episcopal schools because they were held at the church (cathedral) of a bishop, who was a subordinate officer under the Pope, in charge of the religious life of a given region. As we have seen, these schools were originally established for the purpose of training candidates for the ordinary clergy, but in the later Middle Ages they educated a great many lay youth. Schools were also maintained at other large churches that were not the residences of bishops, and these were called collegiate schools.

2. *Monastic schools.* — These were maintained in the monasteries, primarily for novices who were preparing to become monks, although they often educated lay youth also.

3. *Guild schools.* — Guilds were medieval organizations like modern clubs, with a variety of objects, "from governing the community to giving soup to the poor." There was usually some religious aspect to their organization, and they employed one or more priests to officiate for them and pray for their souls. When this priest was not so engaged, he was often required to use his spare time in teaching Latin grammar to a stated number of children. Sometimes large schools were maintained by the guilds, the best known example being the Merchant Taylors' School of London.

It is sometimes erroneously assumed that there was some close connection between "guild schools" and the apprenticeship system of industrial education which prevailed in the

arts and craft guilds. No such connection existed. In the first place, many of the guild schools were maintained by church guilds or other nonindustrial guilds. In the second place, the instruction in the guild schools was just like that in the other Latin schools, whether these were maintained by cathedral authorities or by chantry endowments.

4. *Chantry schools.* — Individuals often established endowments to maintain one or more priests to "chant" prayers for the souls of certain dead persons. In addition to these duties such priests were very commonly required to keep a Latin grammar school open to a stated number of pupils.

5. *Schools in connection with almshouses, etc.* — Almshouses and other institutions for poor relief were very numerous, and sometimes maintained Latin schools.

By the sixteenth century these Latin grammar or secondary schools were so numerous as to provide opportunity in most communities for boys who desired to study Latin as a preparation for higher university study or for a professional career. Leach estimates that there were over three hundred such schools in England about 1535, the chantry schools being most numerous. Inasmuch as many of the students in the Latin schools were preparing for the universities, we shall say a few words about these higher institutions.

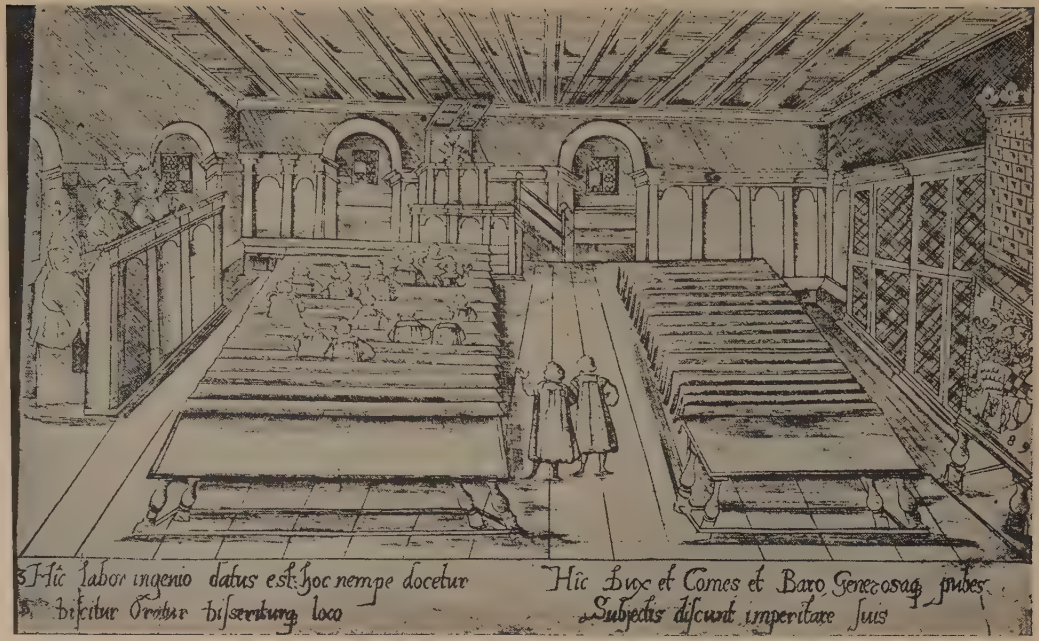
Specialized professional and general education provided in the universities. — The universities had grown up largely during the three centuries following 1100; the University of Paris about 1180, of Bologna in Italy about 1158, of Oxford about 1167, of Montpellier about 1181, of Cambridge about 1209, of Prague (the first of the German universities) in 1347. Most of these dates are given as approximate, because most of the early universities developed so gradually that it is difficult to set some one date as the birth year of any given institution.

Some early universities were largely specialized professional schools to train for certain practical activities. Thus the University of Bologna, as a school for lawyers, developed

in northern Italy to teach Roman law, in a situation where city life, the conflicts of city states with each other and with the emperor of the Holy Roman Empire, and the strife between the Emperor and the Pope, made legal practice an important and profitable business. In a similar way, for local reasons, a university of medicine grew up at Salerno (near Naples), where healing waters and a continuous contact with Greek life and culture, including the science of medicine, stimulated medical study. At Paris the great cathedral school of Notre Dame, through the importance of the city and the fame of certain local teachers (William of Champeaux and Abelard), became a great center for theological study. This was another important practical pursuit, inasmuch as theology influenced all phases of medieval life. The Universities of Orleans and of Bologna were especially noted for the study of canon or church law, that is, the law which governed the behavior of the clergy, who constituted so large a part of the medieval population. Most of the universities also maintained a faculty of arts, in which younger students were trained in the arts (grammar, rhetoric, logic, music, physics, metaphysics, psychology, ethics, politics, mathematics) either as a preparation for higher professional study or as the basis of a general education. Including the students in the arts and in the professional lines, an attendance of several thousand at a medieval university was not uncommon.

Thus we see that by the end of the Middle Ages a large system of Latin grammar schools and universities had grown up in Europe, so extensive that training in such schools was easily gotten by almost all youth who possessed any talent and ambition for it. We shall next take up the question of the demand and necessity for native elementary vernacular education and the provision for common schools.

Social factors in the development of medieval vernacular schools. — Important factors in the development of vernacular elementary schools in northern Europe were the following:

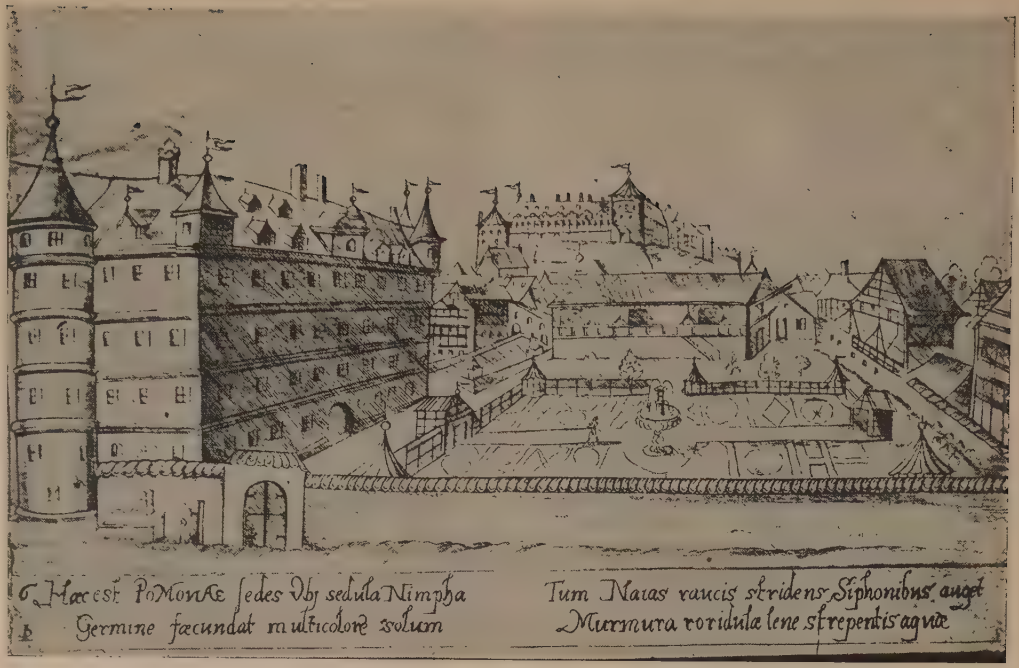

Hic labor ingenio datus est hoc nempe docetur
Discitur Oratur disseritur loco
Hic Dux et Comes et Baro Generosaq; proles
Subjectis discunt imperitare suis

LECTURE ROOM IN THE UNIVERSITY OF TÜBINGEN, GERMANY, ABOUT 1580

(1) the existence or nonexistence of written vernacular literature; (2) some means of disseminating this literature so as to make it generally available; (3) some prominent social interest or stimulus to read it; (4) practical demands, industrial and commercial, necessitating training in reading and writing the vernacular. The first and fourth factors, namely, the existence of written vernacular literature and commercial demands, will be considered in this chapter. The other factors, namely, the dissemination of literature and the development of a strong social interest in reading, will be discussed in the next chapter in connection with the invention of printing and the Reformation.

Tardy development of vernacular literature; English literature before the Reformation. — The literature of England in the later Middle Ages may be divided into three classes, namely, (1) Anglo-Latin, (2) French, (3) English. Both Latin and French retarded the development of English literature down to the sixteenth century. They exerted a similar retarding influence on the vernacular in Germany even longer, that is, until the end of the eighteenth century. (**6** ***a***: 86–89.) So important is this fact in relation to the development of vernacular education that we will consider each type of literature in England at some length.

Latin used by educated classes. — The fact that the secondary schools of medieval Europe existed primarily to teach the Latin language has already been mentioned. These schools prepared for the universities or for any career in which intercourse with educated people and a reading of general literature were factors. We have also noted that Latin was the official language of the Catholic Church, so much so that many of the higher dignitaries could express themselves with difficulty in their native tongue. Latin was the international language of diplomats and scholars. The lectures in the universities were delivered in Latin, and schoolboys were required to converse in it. It was natural that it should


Hæc est Pomonæ sedes Hy sedula Nimpha
Germine fœcundat multicolore solum
Tum Naias vaucis stridens Siphonibus auget
Murmura roridulæ lene strepentis aquæ

BUILDINGS OF THE UNIVERSITY OF TÜBINGEN

be the language of the lawyers, because they were educated in the universities and studied the Roman and canon law, which were in Latin.

Scholars despised the vernaculars. — Most of the scholars despised the vernaculars and believed that Latin would continue to be the universal language that it was then. Thus Petrarch (1304–1374), the great leader of the Italian Renaissance, was ashamed in his maturer years of the love sonnets which he had written in the Tuscan tongue when he was a young man. On the other hand, he expected that he would win fame among posterity by his Latin works; yet the latter are forgotten except by antiquarians, while his Italian sonnets are still sung by thousands of people. Erasmus (1467–1536), the leader of the German Renaissance, was at home in all countries because of his command of Latin, and deplored the tendency to emphasize the study of vernaculars. Sir Thomas More's "Utopia," considered one of the first and greatest of English prose classics, was published in Latin in 1516 and not translated into English until 1551. Francis Bacon (1561–1626) had his scientific works translated into Latin in order that they might not perish; for, he said, "These modern languages will at one time or another play the bank-route [bankrupt] with books, and since I have lost much time with this age, I would be glad if God would give me leave to recover it with posterity." Speaking of the translation of the "Advancement of Learning" into Latin, he said, "It is a book that will live, and be a citizen of the world, as English books are not." Roger Ascham (1515–1568) was the Latin secretary of Queen Elizabeth. Even as late as 1687 Newton's great scientific work, the "Principia," was published in Latin. These examples indicate the large part played by Latin in scientific and learned literature. The following quotation, while it probably exaggerates the matter, expresses the same general fact concerning the importance of Latin as a practical instrument of communication in the Middle Ages.

The diplomatist, the lawyer, the civil servant, the physician, the naturalist, the philosopher, wrote, read, and, to a large extent, spoke and perhaps thought in Latin. Nor was Latin only the language of the higher professions. A merchant, or the bailiff of a manor, wanted it for his accounts, every town clerk or guild clerk wanted it for his minute book. Columbus had to study in Latin for his voyages; the general had to study tactics in it. The architect, the musician, every one who was neither a mere soldier nor a mere handicraftsman wanted, not a smattering of grammar, but a living acquaintance with the tongue, as a spoken as well as a written language. (**9**: 105.)

The prominence of Anglo-Latin literature in the period preceding Chaucer is further suggested by Schofield in these words:

No truly significant work of theology, philosophy, history, law or literary criticism or natural science was first composed in either vulgar tongue [French or English]. While the name of no great English poet from the mediæval period before Chaucer can be mentioned, the number of Anglo-Latin writers whose names are still worthily conspicuous is so large as to give reason for national pride. (**5**: 28.)

French used in England after the Conquest (1066). — It will not be necessary to consider the use of French in England at as great length as we have discussed the use of Latin. A short quotation from Schofield will suffice to present some of the salient facts. The French language was spoken by many in England before the arrival of William the Conqueror, but after the Conquest (1066) it became

definitely established in England as the ordinary speech of nearly every one in authority who was naturally disposed to promote or produce literary works. . . . For over two hundred years after the Conquest no king of England spoke English as his mother tongue; for Henry IV (1399–1413) was perhaps the earliest to use it with native ease. One of the first acts of the Conqueror was to have the laws of his predecessors translated into French, in order to make them intelligible to those whose provisions they were to govern. And French remained the language of the courts up to 1362, when Edward III finally acquiesced in the popular demand, and ordained that English might be used on occasion. In 1363, for the first time, the Chancellor opened Parliament with a speech in English. In 1386 English appeared in petitions, but not before 1450

were they regularly presented in that tongue. Lawsuits were not conducted in English before the time of Henry III. The laws themselves were formulated in French or in Latin to the end of the fifteenth century. Cromwell did away with French in the courts, but it was restored by Charles; and only since the eighteenth century has the use of English been obligatory. (5: 111. Cf. 14, article entitled the Black Death.)

Thus we see that the two foreign languages, Latin and French, were dominant in the literature and intercourse of the higher classes in England down to the end of the Middle Ages.

Oral transmission of tales and sermons in the vernacular. — In spite of the fact that English was not the language of cultivated people, there had developed by the time of Chaucer (1340–1400) a considerable body of vernacular literature. Part of this was intended for ordinary enjoyment, and consisted largely of romances which related the deeds of Charlemagne and King Arthur. English traditions and Alexandrian and other Greek stories were also included. There were also chronicles such as Layamon's "Brut" (*c.* 1327); satirical political poems, such as one "On the Evil Times of Edward II"; and songs and lyrics. There were numerous religious works, Bible paraphrases, homilies, legends and lives of saints, collections of sermons, visions, books of edification, proverbs, dialogues, songs, and lyrics. Most of the religious treatises were evidently prepared for the use of parish priests and other relatively uneducated clergy. These inferior clergy were little disturbed by changes in government, and Schofield concludes that

> to the common folk religious instruction was given uninterruptedly in the vernacular — a fortunate circumstance, for thus the English speech was kept alive amongst them in something like literary form. The clergy had inherited sermons from the Anglo-Saxon collections, and these they modernized and used regularly on the occasions for which they were intended, adding naturally to the store when need came. These sermons were practical and straightforward, suited to everyday needs. They contained many illustrations calculated no doubt to stir the drowsy to interest. (5: 379.)

For the celebrations of saints' days legends took the place of sermons, and for this purpose extensive books of saints' lives were written to be used by the rank and file of the clergy. Many of these legends — or religious romances — were as popular as the tales of King Arthur and Charlemagne.

English books had to win a place in an occupied field. — The general condition of English literature in its relation to Latin and French in the period from the Conquest (1066) to Chaucer is thus expressed by Mr. Pollard.

> Books written in English had to fight their way into a field already occupied, and it is clear that until the fourteenth century they failed to obtain any real popularity among well-to-do people. Of Geoffrey of Monmouth's "Historia Regum Britanniae" there are thirty-five manuscripts in the British Museum alone, and nearly a third of these date from the twelfth century. Of English works on the other hand, written before 1360, perhaps the majority survive only in a single copy, which in no single case bears any traces of the fine writing found in the manuscripts for wealthy book buyers. At a later date there is no lack of manuscripts of Langland, the Wycliffite Bible, and Chaucer, some of them most beautifully written and decorated. The inference is obvious that in the earlier period English books appealed to a very small and by no means wealthy class of readers, and the development of our literature was retarded for lack of encouragement; while of the books written, some at least, which we would gladly have inherited, perished utterly, partly, no doubt, because so few copies were made in the first instance. (5: 451.)

Oral vernacular literature did not develop vernacular schools. — Since this was the condition of vernacular literature, it is evident that there existed little demand for elementary education to prepare for vernacular reading. There was no social interest or stimulus corresponding to any phase of the vernacular literature strong enough to build up a large demand for elementary schools. The religious books were primarily for the assistance of the priests in their oral instruction of the people. Moreover, the romances were composed primarily to be sung or told rather than read. The wandering medieval minstrel with his songs and stories served many of the purposes of the modern novel, magazine, and newspaper.

Commercial demands developed vernacular schools. — The factors in the medieval social situation which actually led to the establishment of the first important elementary schools were the practical industrial or commercial needs, to meet which, training in reading and writing the vernacular, and in the elements of arithmetic, was necessary. The development of such needs paralleled the development of commerce and manufacturing and the growth of cities during the period from 1200 to 1500. Doubtless there was a small amount of vernacular education provided in the Latin schools and by some parish priests before the growth of these cities, but this amount was so small as to be insignificant when compared with the later developments in response to commercial needs.

Prosperous middle class developed between 1200 and 1500. — During the *early* Middle Ages the people of northern Europe were divided into three classes, (1) the nobles, (2) the clergy (including learned and professional persons), and (3) the common people. By the *end* of the Middle Ages, however, an important change had taken place, which is implied in the statement of a writer in 1453, who said the English population at that time consisted of churchmen, nobles, *and craftsmen*, as well as common people. This indicates the change that had taken place, namely, the development of a fourth group, a prosperous industrial and commercial middle class known as craftsmen. This new population and city life developed together. Before the twelfth century England was almost entirely an agricultural nation, with many small villages and a few large ones, which were either centers of local trade or small seaports.

Self-governing cities developed (1100–1400); English wool trade. — During the next three hundred years (1100–1400) scores of self-governing municipalities grew up. Among these cities were trading ports such as Lynn, Sandwich, Southampton, and Bristol; centers of inland traffic like Nottingham, Leicester, and Reading; manufacturing towns like Norwich,

Worcester, and York. "The labor and enterprise which in the earlier centuries had covered England with castles and cathedrals and monasteries was now absorbed in covering it with towns." The town hall became a new center of life; streets were paved, new gates and bridges, wharves and harbors, aqueducts and markets were built. Principles of political liberty were developed in connection with the problems of self-government. In the House of Commons in the early part of the fifteenth century the representatives of towns exercised a powerful influence. The fifteenth century was characterized by the steady improvement of the conditions of the middle class in general culture.

The chief cause of this development in England was the growth of the wool trade. Until about 1350 this consisted largely in the export of the raw material. By about 1450, however, England had become a country whose chief business was exporting cloth instead of wool. Likewise iron and coal mining, manufacturing in metals, silk and lace making, leather work, and other trades developed.

Conflicts occurred between town and ecclesiastical authorities. — The towns came in conflict with ecclesiastical authorities in the same territory in many ways. These conflicts were partially due to overlapping of territory, and concerned commercial, judicial, military, and other duties and privileges. Thus the bishop of the cathedral in Exeter came in conflict with the mayor of the town over the mayor's right to arrest the bishop's tenants, the bishop's right to try cases where the fines might have gone to the town's treasury, the right of the coroner to hold inquests within the cathedral property, the collection of taxes, the duty of the bishop to help keep watch, the town's right to collect tax on the bishop's wine, and many other issues. (7 : chap. xi.)

Town schools one issue in this conflict. — One phase of this conflict between the ecclesiastical and town authorities related to education. We have seen how the Catholic Church provided

the only education available during most of the Middle Ages. In order that this education might be orthodox the Church claimed a monopoly of teaching, and no one was privileged to teach (either in elementary or secondary schools or in the universities) without the express sanction of the cathedral authorities. But as the cities grew, the existing schools often failed to meet adequately the demand for education from the middle class, and the latter tried to establish additional schools to meet their needs. Sometimes these efforts were aided by the local clerical authorities and sometimes they were opposed. At first these schools were Latin schools, just like the cathedral schools, except that they were more conveniently located. Later, however, various forms of vernacular schools developed to meet specialized practical demands, namely, writing schools to train writers, reckoning schools to train accountants, etc. The history of this movement has been investigated for the German schools much more thoroughly than for the English schools, so it will be more profitable to describe the former. It is safe to infer, however, that similar changes occurred in England.

German cities developed Latin schools under municipal authority. — During the thirteenth century northern Italy served as one of the chief pathways of commerce between the Orient and Europe. From Italy the trade to the north passed through Augsburg, Nuremberg, and Frankfort on the Main, where it divided, going to Leipsic and the northern Hanse towns, on the one hand, and to Cologne and the Netherlands, on the other. Under the stimulus of this trade great cities grew up at the important points on the trade routes. The city authorities in these thriving towns undertook to provide schooling to meet the demands not met by the existing cathedral schools.

In Cologne city schools are mentioned in documents dating back to 1234, but the time of general establishment of such schools seems to begin at the middle of the century. Lübeck had been founded only

A MEDIEVAL LATIN GRAMMAR SCHOOL, NUREMBERG

Note the assistant teacher at the right, the large bunch of switches in the hand of each teacher, and what is probably a writing board with music on it, on the wall.

a hundred years before that time (1143). But the territory of the burghers' dwellings had extended rapidly between the bishop's palace and the citadel, so that up to 1250 four parochial churches had to be erected aside from the cathedral. It was only a consequence of this development that, in 1252, the city authorities desired to increase the school facilities, and they determined upon the opening of a new institution near the

market church in the middle of the city proper. They claimed that for little boys the way to the cathedral school was too far and too dangerous, situated as it was at the end of the city. The establishment was approved by the clerical authority [as well as the establishment of other schools more distant from the cathedral]. (**10**: 21.)

In Hamburg, after eight years of opposition from the head of the cathedral school, the town succeeded in getting another school established.

The city council of Breslau was granted permission to establish a school at St. Magdalena in the year 1267. The city children had until then to take their way across the Oder River, because the cathedral school was situated on the opposite side of the river. The distance, as the authorities complained, was far, the state of the bridges bad, and the passage dangerous, especially for the little ones, on account of the people, vehicles, and horses crowding one another in passing over.

Similar establishments in other cities were numerous. At the close of the Middle Ages no German town worth mentioning was without a school supported by the civil authorities. (**10**: 21.)

Vernacular schools established by towns; adventure teachers. — The schools described above were Latin schools, although established largely for practical purposes. To a certain extent they admitted pupils who desired only to learn to read and write. But they failed to satisfy the demand for this form of instruction and consequently elementary vernacular "adventure" schools arose.

City clerks, vagrant ecclesiastics and scholars, pious sisters and nuns, or secular women for the purpose of earning their livelihood, or a little extra income, offered to instruct little children in numbers, reading, and writing, as they had learned these arts themselves. . . . Such teachers for children are mentioned in Frankfort on the Main as early as 1364; women teachers are spoken of in Speier in 1362; in Mayence before 1300. (**10**: 24.)

In addition to these "adventure teachers" there existed a limited number of official vernacular teachers, who were licensed or sanctioned by the town authorities. The local cathedral authorities sometimes opposed these efforts to establish independent vernacular schools, just as they did the

establishment of city Latin schools. But when the cities appealed to the Pope, they received permission to maintain their schools, usually being required to pay into the cathedral funds a part of the fees from the scholars. It was also common to limit the number of such schools. Thus in Lübeck about 1400 a dispute about the question was settled by a treaty giving the city the right to maintain four vernacular (German) schools. The masters of these schools were to instruct the pupils in "reading and writing, and to teach them good manners in a way that will assure God's reward and contribute to the honor and dignity of the city of Lübeck." (**10**: 25.)

Sometimes called writing schools; practical character. — That these schools were established primarily for practical purposes is indicated by the fact that in the records they are sometimes called "writing schools," although they often taught reading as well. The vernacular schools were known, however, by a variety of names, each name suggesting something about the character of the school. Thus there were writing schools, reckoning schools, girls' schools, and "hedge" schools (unlicensed, adventure schools of any sort). Of these the writing and reckoning schools are the most interesting.

Handwriting was an important trade in the Middle Ages, owing to the lack of printing and to the limited educational facilities. There were several classes of professional writers, including the monks who wrote manuscripts, writers employed in public or government offices, private secretaries, and teachers of writing. City clerks were often called "city writers." There were also "traveling writers," employed on occasion in different places, sometimes as teachers. They also wrote letters for the illiterate. Those writing masters who taught writing to young children usually taught them reading also, but with older children they were often restricted to teaching writing. In some of the larger cities, notably in France, the guilds of writing masters enjoyed a practical and official monopoly of the teaching of writing.

Reckoning schools examples of practical vernacular education. — Reckoning schools were a direct consequence of the development of commercial life, and were often identical with the writing schools. Although the Latin schools often taught arithmetic, the instruction was theoretical and was intended for cultural and disciplinary purposes. The "German" vernacular schools sometimes taught the bare rudiments of number. Neither of these provisions was sufficient for the purposes of the business clerk, who needed skill in calculation and a knowledge of bookkeeping. At first this need was met by the business man instructing his sons and apprentices himself. Soon, however, professional "reckoners" developed, who were employed by the cities in the same way as "city clerks," the two functions very commonly being combined in the same person. Their duties are reflected in the kinds of problems found in the practical arithmetics, the first one published in Germany appearing in 1482.

> The reckoning book, in harmony with its purpose, was rich in applied problems. Problems involving denominate numbers, exchange, and merchants' rules occupied the greater part. Besides commercial problems, mensuration received much attention, because the reckoning master, who often performed the duty of surveyor in his town, included in his book the methods for finding heights and distances; and since as inspector of imports he had to measure the bales and casks, he gave in his book the theory and practice of the gauge. (**13**: 184.)

The educational functions of the reckoning master are clearly expressed in the record of the appointment of one in Rostock in 1627, over a century after the close of the Middle Ages. It reads:

> We the Burgermeister and Council of Rostock . . . also command him to attend the Latin school every week an hour each on Mondays, Tuesdays, Thursdays, and Fridays, and there to teach the youth without discrimination, and for a moderate monthly or weekly salary to teach others outside of the school, whether they be boys or girls who desire instruction, Latin and German writing, reckoning, bookkeeping, and other useful arts and good manners. (**13**: 179.)

Vernacular schools in cities, but rarely in villages, at end of Middle Ages. — This will close our survey of vernacular schools during the Middle Ages. We have seen that the conditions of literature were such that there was little stimulus for the establishment of vernacular schools for general reading or literary purposes. On the other hand, the commercial life of the large cities had resulted in the establishment of a variety of vernacular schools to train in the three R's for commercial purposes. But, according to Nohle,

> Regular instruction did not penetrate into the villages at the close of this period, and a people's or common-school education is nowhere to be found in the Middle Ages. As has been shown by examples, the idea was not uncommon that it would be laudable and becoming to every person to obtain useful knowledge at school; but the further idea to institute a general compulsion for that purpose was very remote. Only in modern history does this idea appear, first in the church, then in the state. (**10**: 26. Cf. **14**, article entitled Church Schools.)

BIBLIOGRAPHICAL NOTES

General statement. — These bibliographical notes at the end of each chapter are intended to be selective, discriminating, and helpful, and to refer for the most part to books which will be found in most college or normal-school libraries. Sometimes, however, reference is made to books considered especially helpful for the instructor, although not commonly accessible in smaller libraries, such as the Paulsen (6) and Unger (12) mentioned below. For complete as well as discriminating and helpful bibliographies see

1. CUBBERLY, E. C. *Syllabus of Lectures on the History of Education.* (The Macmillan Company, revised edition, 1904.)

Concerning social background of medieval education. — 2. ADAMS, G. B. *Civilization during the Middle Ages.* (Charles Scribner's Sons, 1894.) I have always found this the most helpful interpretative account.

3. ROBINSON, J. H. *History of Western Europe.* (Ginn and Company.) One of the best of the textbook accounts. Most of the texts on medieval history are useful.

4. Encyclopædia Britannica. Article entitled Creeds contains a concrete account of the increase in the intellectual element in the Christian belief.

5. SCHOFIELD, W. H. *English Literature from the Norman Conquest to Chaucer.* (The Macmillan Company, 1906.) This is simply one of a dozen works on English literature by different authors, any one of which contains a satisfactory account of the retarding of the development of the English vernacular by the use of Latin and French.

The same retarded condition of the German vernacular is described in numbers 6 and 6 *a* below.

6. PAULSEN, F. *Geschichte des Gelehrten Unterrichts.* See index under Deutsche Sprache. See also 6 *a*.

6 *a*. PAULSEN, F. *German Education.* (Charles Scribner's Sons, 1908.) Pp. 86–89.

7. GREEN, MRS. J. R. *Town Life in the Fifteenth Century.* (The Macmillan Company, 1894.) 2 vols. Good account of growth of English towns in relation to wool trade. Vol. I, chap. xi, contains an account of the conflict of town and ecclesiastical authorities.

Concerning medieval schools. — 8. WATSON, F. *English Grammar Schools to 1660.* (Cambridge University Press, 1909.) Chap. vii, pp. 137–147, is entitled Medieval Elementary Education.

9. LEACH, A. F. *English Schools at the Reformation.* (Constable, 1896.) A thorough account of medieval Latin schools, with a little incidental material concerning vernacular schools.

10. NOHLE, E. History of the German School System, *Report United States Commissioner of Education* (1897–1898). Vol. I, pp. 1–26.

11. AZARIAS, BROTHER (pseudonym for MULLANY, P. F.). *Essays Educational.* (W. H. Young, New York, 1905.) A sympathetic, reliable Catholic account, but must be used carefully from standpoint of this chapter, owing to the fact that the author makes little distinction between elementary *Latin* schools and elementary *vernacular* schools, and does not distinguish carefully between real medieval conditions and those of the sixteenth and seventeenth centuries.

12. UNGER, F. *Die Methodik der Praktischen Arithmetik.* (Teubner, Leipsic, 1888.) Pp. 1–34. Contains best account of medieval reckoning schools.

13. JACKSON, L. L. *Sixteenth Century Arithmetic.* (Teachers College, New York, 1906.) Pp. 178–184. Some of this is practically a summarized translation of Unger.

14. MONROE, P. *Cyclopædia of Education.* (The Macmillan Company, 1911.) Article entitled Church Schools, by Leach. Suggests that schools kept by parish priests in England were more numerous than stated by Nohle for Germany in paragraph quoted at end of this chapter.

PART II. ELEMENTARY SCHOOLS ON A RELIGIOUS BASIS

CHAPTER III

ELEMENTARY SCHOOLS FOR RELIGIOUS PURPOSES. THE REFORMATION

Main points of the chapter.—1. The Protestant Reformation introduced a new basis for elementary vernacular education, namely, the necessity of personal study of the Scriptures in order to secure salvation.

2. Martin Luther preached salvation through faith and direct appeal to God, as opposed to salvation through the Church, and thus became the leader of the German Protestant movement.

3. The Puritan movement represents the real spiritual (as opposed to the political) phase of the English Reformation. The Puritans were dominated by the ideas of John Calvin of Geneva, the great international leader of Protestantism.

4. In Protestant theory the circulation of the vernacular Bible was fundamental and necessary; in Catholic theory it was accessory or supplementary; but the Catholics did not oppose the circulation of orthodox vernacular translations.

5. Practically a new reading public was created by the extensive circulation of the controversial pamphlets issued by both parties during the Reformation. This circulation was made possible by the developments in the art of printing (1423–1480).

6. Contrary to what would be expected, there was in Protestant Germany no great increase in the provisions made for elementary schools. This was partially due to the fact that the need for such schools was overshadowed by the need for classical schools to train religious leaders.

7. In England neither church nor state made any extensive provision for elementary schools until the nineteenth century.

8. In Puritan Massachusetts we have the clearest and most consistent establishment of elementary schools based on the fundamental Protestant principle of the necessity of studying the Scriptures.

9. Some of the earliest schools in Massachusetts were established voluntarily by the towns.

10. The General Court of Massachusetts, however, in 1647 required towns of a stated size to maintain schools and *authorized* support of these schools "by the inhabitants in general, by way of supply." This action, taken by what was practically a Church court, and based on Calvinistic precedents, established the basic principle of the development of American state school systems.

11. In the colonies outside of New England provision for elementary schools was usually left to local churches or voluntary neighborhood organizations, without active interference from the central governments.

Place of vernacular education in Catholic and Protestant theory. — The previous chapter showed the status of elementary vernacular schools at the close of the Middle Ages. There was no strong demand for such schools except from the commercial classes in the larger cities. Consequently only a small part of the total population of Europe had the advantages of a vernacular education.

The Protestant Reformation introduced a new basis for vernacular education, and in order to appreciate this innovation it is important to understand the attitude of the Catholic Church toward education in this period.

Catholic Church encouraged education. — It is fair to say that in general the higher authorities in the Church were interested in aiding the development of any kind of education which answered to some real social need, from the universities down to the reckoning and writing schools. This was not always true of local ecclesiastical authorities; but whenever universities appealed to the popes for privileges and support they usually received them; when the cities appealed to the popes to be allowed to maintain their Latin or their vernacular schools in spite of the opposition of the local cathedral school authorities, the popes usually sided with the city authorities. Moreover, as we have seen in the preceding chapter, Latin schools were very generally provided under ecclesiastical support and control.

Vernacular schools more important in Protestant theory than in Catholic. — On the other hand, it is important to appreciate that, owing to a fundamental difference in the religious theories of the Protestant and Catholic churches in the sixteenth century, there was theoretically a greater need for the establishment of elementary vernacular schools for Protestant children than for Catholic children. This difference in theory is as follows: The early Protestant theory was that an individual's Christian religious life, convictions, and salvation were to be worked out through a direct study of the Scriptures, acceptance of the obvious teachings of Christ as there presented, and direct appeal to God through prayer for help in leading a Christian life. The Catholic position, on the other hand, was that the individual's religious life was to be achieved through the intervention of the Church, which claimed on historical grounds to have been founded by Christ, to be his official representative and mediator in the world. It was through the teachings of this Church that the individual was to receive his ideas of the Christian religion, to be stimulated to believe these, to be kept in the path of righteousness, and to obtain salvation.

Protestants not consistent in practice. — The theory of the Protestants, however, was not always, in fact not generally, carried out in practice. Luther soon became as intolerant of the right of the individual to form his own beliefs as any of the Catholics were. Calvin became practically the pope of a large part of the Protestant world, and Geneva has well been called the "Rome of Protestantism." The Puritans of Massachusetts at one time granted the rights of citizenship only to orthodox Puritans and sometimes exiled those of different faith. Nevertheless, in spite of the Protestant inconsistency in practice, the fundamental theory of the necessity of the individual's studying the Scriptures resulted in important innovations in elementary vernacular education, which we shall consider in this chapter.

The following outline of certain general aspects of the Reformation will help in understanding the educational developments in Europe and America.

Catholic and Protestant reformations. *Catholic Reformation to purify the Church.* — The Catholic Reformation was an attempt by those who believed in the fundamental theory of the Church as presented above, to remove mistaken practices and abuses which had grown up in the Church in the course of more than a thousand years, and to restore it to the legitimate or correct form of organization and life which had prevailed in the earlier Christian centuries. Among individuals the great scholars Erasmus (1466–1536) of Holland, Dean Colet (1466–1519) of St. Paul's Cathedral in England, and Sir Thomas More (1478–1535) are notable examples of leaders in this movement. In order to find out what primitive Christianity really was, it became necessary to study the Scriptures in the original Greek and Hebrew, because mistakes might have occurred in the translation. It was also necessary to study the writings of early Church leaders or Fathers — of Jerome (340?–420) and Augustine (354–430) in Latin, of Basil and others in Greek. To aid in this work Erasmus published in 1516 his edition of the New Testament in Greek with a Latin version and notes, which was the first attempt to get a correct version by the critical comparison of manuscripts. He also edited the works of Cyprian, Jerome, Augustine, Basil, and Chrysostom.

Erasmus and Colet criticized many of the practices of the Church, such as the failure of churchmen to live in places where they were supposed to serve, too much employment in secular offices, covetousness, luxuriousness, voluptuousness, laziness, ignorance, superstition, etc. Official attempts were made to correct these abuses in various general councils of the Church. These culminated in the Council of Trent (1545–1563), the plans of which were carried out by the Jesuits. The Jesuits reëstablished the power and renewed

the life of the Church in many countries, and established the most efficient system of Latin secondary schools in Europe.

Protestant Reformation included a change in religious theory. — The Protestant Reformation differed from the Catholic in that it was a protest against the fundamental theory of the Catholic Church as well as against the abuses which the Catholic Reformation corrected. Protests against or organized dissent from the doctrine of the Church had occurred several times before the Lutheran movement. As a rule these protests took the form of an appeal to the Scriptures as the source of religious life, and of more or less organized opposition to the dominance of the Roman Catholic Church. The following are some of the most important examples of these pre-Lutheran protests.

Examples of earlier protests against Catholic Church. — The Waldenses of southern France and of Switzerland probably derived their name from Peter Waldo of Lyons, who in the twelfth century was leader of a widespread struggle against the corruptions of the clergy. Thus the early Waldenses stood for practical reforms such as Erasmus and Colet favored in later centuries, not for a doctrinal revolution. They suffered alternate peace and persecution for many centuries.

The Albigenses, on the other hand, were a great body of "heretics," or dissenters from the doctrine of the Catholic Church, who lived in southern France during the twelfth century. They were vigorously persecuted.

In England the works of Wycliffe (1324–1384) constitute the most famous protest before the sixteenth century. Wycliffe challenged many of the doctrines of the Catholic Church; set to work to translate the Scriptures into English; and organized a body of "poor priests," who preached his doctrines to the people. Although tried for heresy, he escaped serious punishment. While his doctrines were not widely accepted, they served somewhat as a preparatory leaven for the greater protest that was to follow in the sixteenth century.

In Bohemia the doctrines of Wycliffe were preached by John Huss (1369–1415), who acquired a very strong following among the people as well as among the nobility. He maintained vigorous and open opposition to the Catholic Church on practical as well as doctrinal grounds for several years, but was finally burned by order of the Catholic Council of Constance in 1415.

Luther and Calvin leaders of sixteenth-century Protestant Reformation. — These early protests failed to alienate any considerable portion of Western Europe from Catholic control. The Protestant Reformation of the sixteenth and seventeenth centuries, on the other hand, severed parts of the territory of Germany and Switzerland, all of England and Scotland, and parts of the population of France and Holland from subordination to the Catholic Church. The two great leaders in this movement were Martin Luther (1483–1546) of Germany and John Calvin (1509–1564) of France and Switzerland. Luther is more picturesque and interesting than Calvin, and his influence was dominant in Germany. Calvin, however, was more influential than Luther in France, Holland, Scotland, England, and Massachusetts; and the Calvinistic theory of education was dominant among the English and American Puritans. In view of this fact we shall devote almost as much attention to Calvin and the Puritan phase of the Protestant Reformation as to Luther and the German Reformation.

Luther advocated salvation through faith. — The essential religious idea which Luther advocated was salvation through faith, in opposition to salvation through the Church. Luther was an Augustinian monk. He was intensely religious, and as he was weighed down by his consciousness of sin, he tried all the ordinary methods of relief prescribed by his monastic order. None of these sufficed, however, and after a careful study of the writings of St. Augustine he decided that forgiveness and salvation could be secured only through faith in Christ and direct appeal to God. While he was serving as

professor at the University of Wittenberg, the sale of indulgences in the neighboring region by a representative of the Pope attracted Luther's attention. Indulgences were pardons, usually from the Pope, which, it was supposed, would exonerate the contrite sinner from part of the punishment for his sins. Luther was so strongly opposed to this idea that he drew up ninety-five theses or arguments against it. In accordance with the university custom of that day, he nailed these theses on the door of the church in Wittenberg and challenged any one to debate who cared to try to refute them. This challenge was the signal for the stupendous conflict which eventually resulted in the abolishing of the power of the Catholic Church in many parts of Europe. The hundreds of small states of which Germany then consisted became divided into two camps, some favoring Luther and others the Church. To aid the religious revolution of which he thus became the leader, Luther published in 1522 a careful translation of the New Testament into German, and in 1529 he published catechisms for the instruction of the clergy and the common people in the essentials of Christianity according to his belief.

Calvin dominated English Puritanism. — English Puritanism was one phase of the Protestant Reformation and was dominated by the ideas of John Calvin of Geneva. Calvin was born and educated in France. He was an industrious student and enjoyed a thorough legal and religious training. He gradually adopted the Protestant belief, which was making some headway in France, and was obliged to flee the country, owing to the vigorous persecution of the Protestants by the French king. He settled in the Swiss city republic of Geneva and after several years became practically religious and political dictator of the city (1541–1564). In 1536, at the age of twenty-six, he had published his "Institutes of the Christian Religion," which has long stood as the most complete systematic presentation of the theology of orthodox Protestantism. Calvin was the great international leader of Protestantism,

directing the French Huguenots, inspiring the Protestants of Holland, advising the ministers of Edward VI of England, teaching John Knox, who went from Geneva to mold Scotch Presbyterianism, and dominating the thought of English and American Puritanism. The civic and religious governments of Geneva went hand in hand and furnished the model for the theocracy (religious state) which the Puritans organized in Massachusetts. In reforming the degenerate moral life of the city the most austere and strict rules of conduct were prescribed, having both civic and religious sanction. This ideal of asceticism, that is, the denial of all æsthetic and other natural or worldly pleasures, was also copied by the Puritans.

Early English Reformation largely political instead of religious. — The Reformation in England was largely a political rather than a spiritual or religious movement. There was relatively little dissatisfaction with the fundamental religion of the Catholic Church among Englishmen. Henry VIII (*r.* 1509–1547), who inaugurated the break with the Roman Church, was actuated purely by personal and political motives; in the divorce question, by sensuous motives and the desire to have a male heir; in the destruction of the monasteries, by the desire to secure funds; in the encouragement of Protestants, by the desire to secure the assistance of Protestant German princes against the Catholic king of France and the emperor of the Holy Roman Empire, who desired to conquer England. But he remained a Catholic at heart, as were most Englishmen at the time of his death.

> He always believed in rites and ceremonies; he might dally with Lutheranism, or rather permit his ministers to dally with it for political purposes, but he always remained a Catholic at heart. His convictions were not due to ignorance, for few men were so well-read in heretical theology; he kept a private cabinet full of Lutheran books and read them with eagerness and intelligence. (**3**: 83.)

During his reign Lutheran books and theories circulated considerably in England, but though the Church of England had

declared its independence from Rome (1534), it condemned Lutheranism as heretical.

Under Henry's successor, Edward VI (*r.* 1547–1553), Calvinism made some progress in England, yet the people received the next ruler, the Catholic Queen Mary (*r.* 1553–1558), with great acclamations of joy. The persecutions instituted by Mary, however, and the fear of Spanish supremacy, developed in the people such a strong anti-Catholic spirit that when Elizabeth (*r.* 1558–1603) came to the throne she found it to her advantage to encourage Protestantism. The Elizabethan English Church retained many practices of the Catholic Church, such as the kneeling posture at the Lord's Supper, the sign of the cross in baptism, the use of the surplice, the bowing at the name of Jesus, the reading of apocryphal lessons.

Puritans represent real spiritual element in English Reformation. — Against these practices there was a strong protest by the Calvinistic element, which had grown up under Edward VI, and while banished under Mary and living on the continent had become more Calvinistic than before. Owing to their desire to purify the English Church of the forms or practices mentioned above, these Calvinists became known as Puritans. They represented a very strong movement among the English people, but were generally opposed by Elizabeth (*r.* 1558–1603), James I (*r.* 1603–1625), and Charles I (*r.* 1625–1649). The Puritans were most oppressed from 1629 to 1640, during the period of personal government by Charles, when Parliament had no meeting. Many of the most prominent and liberal Puritan leaders were imprisoned for political as well as religious opinions, and others were subjected to enormous fines. These persecutions were pushed by Archbishop Laud, who was determined that the Puritans should conform to the liturgy and beliefs of the established English Church. This was the period of the great Puritan migration to America. Almost all the Englishmen who were to emigrate

to New England did so between 1628 and 1640. Some of them were moved by unsatisfactory economic conditions at home, but most of them by their Puritan opinions and the desire to worship as they believed. When Parliament convened in 1640 it had a majority of Puritans, who through persecution had become a "compact body, austere in morals, dogmatic in religious belief, ready to make use of political means for religious ends." The long struggle which followed between Parliament and the king resulted in victory for the former, and Charles was beheaded in 1649. From 1649 to 1660 England was governed by the Puritan Commonwealth under the leadership of Cromwell, "without King or House of Lords."

This brief sketch of the Protestant Reformation, particularly in England, will help us to appreciate the educational aspects which we shall consider later. Before turning to these, however, it will be worth while to consider two other phases of the social background of elementary education, first, the place of the Bible in Catholic and Protestant theory, and second, the invention of printing and its influence in creating a reading public.

The vernacular Bible; fundamental for Protestants, accessory for Catholics. — The difference between the Catholics and the Protestants in the use of the Bible in the sixteenth century is an important factor in understanding the development of elementary schools. For the Protestants the Bible was the authoritative guide and source for spiritual life. For the Catholics the Church served these purposes primarily, although the Bible was deemed an important source of moral teachings for all people. In the Protestant theory the Bible was a primary and final necessity of the religious life; with the Catholics it was accessory or supplementary.

Catholics did not oppose orthodox vernacular Bible. —These differences, however, have often been distorted or exaggerated so as to give an unfair impression of the use of the

Bible by Catholics and Protestants. It is probably a fair statement to say that, in general, the Catholic Church did not oppose the use of the Bible in the vernacular by the common people, except where variation in translation or interpretation encouraged wholesale heresy or departure from the authoritative teachings of the Church. In fact, before the Reformation there are many examples of Catholic authorities' putting the whole or parts of the Bible into the vernacular, to be used as a source of moral lessons by the common people. One of the most notable examples of this on a large scale is found in the activities of the Brethren of the Common Life, founded in the Netherlands in 1384. They were orthodox Catholics organized to copy and disseminate manuscripts for moral and religious instruction. These manuscripts were largely in the Dutch language and were often distributed gratis. It is sometimes erroneously assumed that Luther was the first to translate the Bible into German. As a matter of fact, many manuscript translations had been made before his printed translation was issued.

Sir Thomas More proved circulation of Catholic English Bibles. — In England we have good evidence from Sir Thomas More (1478–1535) that the English Bible was often in the hands of orthodox Catholics. More said:

> I myself have seen and can show you Bibles, fair and old, written in English, which have been known and seen by the bishop of the diocese, and left in the hands of laymen and women, whom he knew to be good and Catholic people who used the books with devotion and soberness. (2: 239.)

Another quotation from More, although somewhat biased by his Catholic sympathies, gives a fair summary of the English situation.

> If the having of the Scriptures in English be a thing so requisite of precise necessity that the people's souls must needs perish unless they have it translated into their own tongue, then the greater part of them must indeed perish, unless the preacher further provide that all people

shall be able to read it when they have it. For of the whole people, far more than four tenths could never read English yet, and many are now too old to begin to go to school. . . . Many, indeed, have thought it a good and profitable thing to have the Scriptures well and truly translated into English, . . . although many equally wise and learned and also very virtuous folk have been and are of a very different mind. . . .

I would not, for my part, withhold the profit that one good, devout, unlearned man might get by the reading, for fear of the harm a hundred heretics might take by their willful abuse. (**2**: 249, 242.)

These quotations show the division of opinion among good Catholics. In actual practice the Church as a rule prohibited the circulation only of vernacular Bibles which did not have its approval.

Erasmus expressed liberal Catholic attitude. — The most favorable of the Catholic attitudes toward the Bible was expressed by Erasmus as follows:

I would to God the ploughman would sing a text of the Scripture at his ploughbeam. And that the weaver at his loom with this would drive away the tediousness of time. I would the wayfaring man with this pastime would expel the weariness of his journey. And to be short, I would that all the communication of the Christian should be of the Scripture, for in a manner such are we ourselves as our daily tales are. (**10**: 51.)

The Protestant attitude; Luther said Bible is sole guide. — Luther argued at great length for the study of the Bible as the primary necessity for a religious life. The following statements are quoted from his writings:

The Scriptures, and they alone, are our vineyard, in which we are to exercise ourselves, and to labor.

Above all things, let the Scriptures be the chief and most frequently used reading book, both in primary and high schools; and the very young should be kept in the gospels. Is it not proper and right that every human being, by the time he has reached his tenth year, should be familiar with the holy gospels, in which the very core and marrow of his life is bound?

The soul can do without everything except the Word of God. Without this it suffers need. But when it has the Word of God, it needs nothing more, but has in the word enough — food, joy, peace, light, art, righteousness, truth, freedom, and every good thing in abundance.

Calvin's similar argument. — Calvin in his "Institutes of the Christian Religion" devoted three long sections to proving that the Bible is the instrument of the Christian life. He said:

Let this therefore stand for a certainly persuaded truth, that they whom the Holy Ghost hath inwardly taught do wholly rest upon the Scripture, and that the same Scripture is to be credited for its own sake, and ought not to be made subject to demonstration and reason; but yet the certainty which it getteth among us, it attaineth by the witness of the Holy Ghost. (1 : 23.)

Contradictory testimony concerning circulation of Protestant English Bibles. — The actual effect on the reading of the Bible in England of these Lutheran and Calvinistic positions is difficult to determine. On the one hand, we have the following complaint of a reformer in 1539: "Who is there almost that will have a Bible but he must be compelled thereto." On the other hand, we have the following quotation from Green's "Short History of the English People," which, in view of the facts about English literature, and the Catholic temper of the English people, and the work of Caxton's printing press in printing romances and other vernacular material, is certainly exaggerated.

England became the people of a book and that book was the Bible. It was as yet the one English book that was familiar to every Englishman; it was read at churches and read at home, and everywhere its words, as it fell on ears which custom had not deadened, kindled a startling enthusiasm. The popularity of the Bible was owing to other causes besides that of religion. The whole prose literature of England, save the forgotten tracts of Wycliffe, has grown up since the translation of the Scriptures by Tyndale (1525) and Coverdale (1535). So far as the nation at large was concerned, no history, no romance, hardly any poetry save the little-known verse of Chaucer, existed in the English tongue when the Bible was ordered to be set up in churches. Sunday after Sunday, day after day, the crowds that gathered around Bonner's Bible in the nave of St. Paul's, or the family group that hung on the words of the Geneva Bible in the devotional exercises at home, were leavened with a new literature. The power of the book over the mass of Englishmen

showed itself in a thousand superficial ways, and in none more conspicuously than in the influence it exerted on ordinary speech. It formed, we must repeat, the whole literature that was practically accessible to ordinary Englishmen. (**21** : chap. viii.)

The invention of printing and the Reformation developed a new reading public. — In the previous chapter it was shown that during the manuscript period in England (before about 1470) the conditions of vernacular literature and the means of disseminating it were such as to furnish little stimulus for the development of a reading public and of vernacular schools. With the development of the art of printing (1423–1480) and the Protestant Reformation, however, came two revolutionary influences. The Reformation, with its emphasis on the Bible and its flood of controversial literature, provided the material and incentive for general reading ; the printing press furnished a quick and cheap means of getting the material to the public. The result was revolutionary.

It hardly requires any discussion to appreciate the fact that during the manuscript period books were relatively rare and very valuable. Many examples are available of students or families being considered fortunate if they possessed a very few books. Most of the instruction given in the higher schools was in lecture form, the students depending on their memories or on shorthand or abbreviated notes. Before the invention of printing, manuscripts were so scarce and costly, even in Italy where intellectual life was most active, that their circulation was limited largely to ecclesiastics, the court circles, the literary groups of the cities, and the university faculties.

The most important dates in connection with the invention of printing, according to Cubberly, are the following. (**19** : 134.)

1423 Coster of Haarlem in Holland made the first engraved page.
1438 Gutenberg of Mayence in Germany invented movable types.
1450 Schoeffer and Faust cast first metal type.
1455 Latin Bible printed by Gutenberg and Faust at Mayence. First complete book printed.

1462 Mayence pillaged by Adolph of Nassau and its printers scattered over Europe.

Printing introduced into Italy (1465–1471), France (1469), Switzerland (1470), Holland and Belgium (1473), Spain (1474), England (between 1474 and 1477).

Printing of Latin and Greek books; Caxton an exception. — This practical development of printing came during the period of the revival of classical study (one phase of the Renaissance) and was greatly stimulated and helped by it. The demand for printed editions of classical authors was so great as to make printing profitable. Many of the most famous printing establishments of Europe, such as the Aldine Press at Venice and the press of Froben at Basel, Germany, devoted themselves exclusively to printing Latin and Greek books. Caxton's press in England (1475–1492) is an exception to this tendency. It printed about one hundred works, most of which were in English. The list of Caxton's publications is the best representation of the popular reading interests of the period. It included Chaucer's "Canterbury Tales" (printed 1478), Chaucer's translation of the "Consolations of Philosophy" by Boëthius (printed 1479), "The Chronicles of England" (printed 1480), poems by Lydgate (printed 1481), by Gower (printed 1483), and translations of many romances and tales from the French. In one of his prefaces Caxton speaks of these romances as adapted to "all virtuous young noble gentlemen and women." His reading public was doubtless composed of the nobles and middle-class merchants.

Pamphlets of Reformation stimulated popular reading. — The Reformation gave even a greater stimulus to the circulation of printed books than did the revival of classical study. Luther's writings "achieved a larger popularity and exercised a more far-reaching influence than could be claimed for any books of the [sixteenth] century." (**4**: 216, Vol. II.)

The Protestant reformers originated the pamphlet as a cheap and convenient method of reaching the people. This

was followed by the *Flügelschriften*, or flyleaf literature, comprising sermons or tracts of two or four pages. These were sold by peddlers in the market places of the towns and villages and from farmhouse to farmhouse. Of Luther's pamphlet, entitled an "Address to the Nobles of Germany" (1520), five thousand copies were sold in five days. Of the pamphlet containing his controversial address against Eck (1519), fourteen hundred copies were sold in two days at the Frankfort Fair. The Catholics used the same means, although not so extensively. Some of the best examples of this controversial literature in English are found in the somewhat larger works of Sir Thomas More written in defense of the Catholic position against the writings of Luther and Tyndale, which were gaining an alarming circulation in England. More wrote about a half dozen such defensive treatises in English between 1523 and 1535.

Luther's German Bible the foundation of literary German. — Luther's translation of the New Testament into High German was published in 1522. The first printed German Bible had been issued by Catholics at Nuremberg in 1483, but was in a dialect that assured it very slight circulation. Luther's work was the result of a long and careful effort to put the Scriptures into a German dialect that would be understood by many people. In this he was successful, and his Bible became the foundation of modern literary German. Thousands of copies of his translation were sold in a few years. The translation of the Old Testament consumed many years, and the first edition of the entire Scriptures in one volume was published in 1534. (**4**: 233, Vol. II.) Putnam says that the effect of the Reformation was to bring into existence a new vernacular-reading public. While this statement, perhaps, is too strong, it is certainly true that the theories and controversies of the Reformation furnished a much stronger social stimulus for learning to read than had existed before. This increased interest in reading the controversial religious

literature as well as the Bible developed sometimes and in some places a new interest in the establishment of elementary schools, to which we will now turn.

Effect of Reformation on actual establishment of elementary schools in Germany. *Classical schools to train leaders overshadowed elementary schools.* — It is an evident corollary of the Reformation principle, "every one should be able to read the Scriptures," that adequate instruction should be provided to train children to read. Yet, in actual practice, this necessity was overshadowed by the need of training religious leaders who knew the classical languages, and the earliest efforts of the German reformers were devoted to establishing systems of Latin schools.

In " Dr. Martin Luther's Address to the Mayors and Councilmen of all the Towns of Germany, calling upon them to establish and sustain Christian Schools, A. D. 1524," Luther's chief emphasis was placed on the necessity of studying the classical languages as follows :

> Now, since the gospel is so dear to us, let us hold fast to the languages. Nor should it be in vain to us that God has caused His Scriptures to be written in two languages only, — the Old Testament in the Hebrew, and the New Testament in the Greek. These languages God has not despised, but has chosen them for His word, to the exclusion of all others ; and we too ought therefore to honor them above all others.
>
> For they are the scabbard, in which the sword of the spirit is sheathed ; they are the casket, in which the jewel is enshrined. (**4** : 432, Vol. II.)

Luther believed it to be the right and duty of rulers to establish schools for training leaders and to compel parents to send their children to these schools. This belief is expressed in the following quotation :

> I hold it to be incumbent on those in authority to command their subjects to keep their children at school ; for it is, beyond doubt, their duty to ensure the permanence of the above-named offices and positions, so that preachers, jurists, curates, scribes, physicians, schoolmasters, and the like may not fail from among us ; for we cannot do without them. If they have the right to command their subjects, the able-bodied among

them, in time of war, to handle musket and pike, to mount the walls, or to do whatever else the exigency may require; with how much the more reason ought they to compel the people to keep their children at school, inasmuch as here upon earth the most terrible of contests, wherein there is never a truce, is ever going on, and that with the devil himself. . . . Wherefore, let magistrates lay these things to heart, and let them keep a vigilant look-out; and, wherever they see a promising lad, have him pledged at school.

This was the same theory upon which pre-Reformation education was largely based, namely, liberal provision of classical secondary schools to select and train leaders. The authority was changed, however, from Church to State. According to Luther the instruction of all children in reading was to be incidental to other work of the classical schools. Thus he said:

Boys shall attend upon such schools as I have in view an hour or two a day, and none less; spend the rest of their time at home, or in learning some trade, or doing whatever else you will. . . . So, too, your little girls may easily find time to go to school an hour a day and yet do all their household duties.

It is sometimes assumed that Luther was advocating some innovation in industrial education in this statement. It is probable that he was doing just the opposite; that is, he said to parents, you may continue to have your boys learn a trade or do whatever you please, and may continue to have your girls help with the housework, but you should also let *all your children* go to school one hour a day, so that they might learn to read. This last suggestion constitutes the innovation, not the training for a trade, which was the common practice.

German laws subordinated elementary schools. — In carrying out Luther's suggestions, those Protestant states of Germany, in which the rulers were interested in education, first turned their energies to providing Latin schools (Latin being the necessary approach to all higher study). Such schools were organized in Magdeburg in 1524, in Eisleben (Luther's

TWO QUAINT PICTURES OF OLD-TIME SCHOOLS OF UNCERTAIN DATE

birthplace) in 1525, and as a state system in Saxony in 1528. In the last named, instruction in the German language was expressly prohibited. This subordination of the vernacular schools is described by Paulsen as follows:

> The later School Regulations issued by Melanchthon and Bugenhagen [German Protestant educators of northern Germany] also let the matter rest there; the grammar school continued to occupy the place of the public school, open to everybody; "German schools" were only incidentally mentioned as being in existence and tolerated. . . .
>
> The earliest School Regulations which devoted a separate paragraph to "German schools" were those issued in 1559 by Christopher, Duke of Württemberg, which were important in more respects than one. All their essential points were adopted by the Regulations for the Electorate of Saxony of 1580. Here again, it is true, the German school continued to be regarded as nothing more than a makeshift for villages and market towns; wherever a "regular," i.e. a grammar school existed, the German school was treated as a mere annex or offshoot. According to these Regulations the instruction in the German school, which was, as a rule, given by the sacristan or parish clerk — it was expressly stipulated that he should not be beadle or constable at the same time! — comprised reading, writing, catechism, and singing. (7: 77.)

Although the German schools were dealt with only incidentally in the official regulations, there was considerable provision in the larger towns for private reading and writing schools such as were noted in the last chapter. Moreover, instruction in Luther's catechism was given in the home and by the preachers, and teaching to read was sometimes connected with this instruction. Nevertheless, it is a fair generalization to say that the immediate increase in the provision of elementary education as a result of the Reformation was not very large.

In England. *Many Latin schools abolished by the Chantries Acts.*—We have seen that Latin grammar schools existed in great numbers in England before the Reformation. Sometimes elementary vernacular reading and writing were taught in these. A few of the chantry schools were primarily vernacular schools. In the towns, vernacular schools to teach writing,

reckoning, and reading were often provided by private adventure teachers, or perhaps occasionally by the town authorities.

The immediate effect of the Reformation on the Latin grammar schools was practically to wipe many of them out of existence. This was due especially to the Chantries Acts (1545–1552), which abolished chantries as superstitious practices. It was the expressed intention to use the chantry endowments for the establishment of new schools, but as a matter of fact part of the funds and lands were used for other purposes. The effect of the Chantries Acts on elementary schools was probably not as serious as on the Latin schools.

Neither Church nor State provided effective elementary schools.— The history of elementary schools in England of this period has not been studied sufficiently to provide a reliable account of it. The conditions of elementary education were probably poorer than in most other countries, Protestant or Catholic. Down to the period of the Puritan Commonwealth (1649–1660) and after, the Established Church was largely Catholic in spirit, but it lacked the organizations (such as the Brethren of the Christian Schools) which in some Catholic countries maintained effective elementary schools. It also lacked the dominant spirit of extreme Calvinistic Protestantism, which was represented in the organization of the Scottish Church and resulted in a system of elementary schools in Scotland. Consequently there was no organized attempt to provide elementary schools in England until 1699, when the Society for Promoting Christian Knowledge was established.

Some elementary instruction in reëstablished Latin schools. —The Latin grammar schools which had been destroyed by Henry VIII and Edward VI were gradually reëstablished, or new ones founded, so that by the end of the reign of Elizabeth (1603) there were at least as many if not more than before the Reformation. (**12** : 11.) Provision for elementary vernacular

education was sometimes made in connection with these schools. The elementary scholars were called "petites" and were commonly taught reading and writing and casting accounts, in addition to the catechism and the principles of religion. Sometimes the grammar master combined the functions of Latin and vernacular teacher. Sometimes the petites were taught by advanced pupils, and occasionally a special elementary vernacular teacher was employed.

Dame schools furnished most of elementary instruction. — Most of the elementary vernacular instruction, however, was in private adventure or "dame" schools. Evidence of this is found in educational writings of the sixteenth and seventeenth centuries. Thus Richard Mulcaster said in 1581: "For the Elementary, because good scholars will not abase themselves to it, it is left to the meanest, and therefore to the worst." (**10**: 156.) Similarly, Edmund Coote (1596) partially addressed his "English Schoolmaster," a textbook for elementary schools, as follows:

> To the unskilful, which desire to make use of it for their own private benefit, and *to such men and women of trade, as Tailors, Weavers, Shopkeepers, Seamsters, and such others as have undertaken the charge of teaching others.* [With this textbook] *thou mayest sit on thy shop-board, at thy books or thy needle, and never hinder any work to hear thy scholars*, after thou hast made this little book familiar to thee. (**10**: 156.)

Instruction at home very common in England. — In addition to the instruction provided in the Latin grammar schools and the dame schools, it was very common to teach children at home, particularly among the Puritans. In these homes family worship and Bible reading were important phases of life, and these naturally led to teaching children to read. Watson cites the following example from the "Autobiography of Adam Martindale" (born 1623).

> When I was near six years old, one Anne Simpkin, who was one of my sureties at the font, being grown low in the world, but not in goodness, out of a real principle of conscience to perform her promises and

engagements for me at my baptism (as I verily believe), bestowed an A. B. C. upon me; a gift in itself exceeding small and contemptible, but, in respect of the design and the event, worth more than its weight in gold. For till that time I was all for childish play, and never thought of learning. But then I was frequently importunate with my mother that had laid it up (thinking I would only pull it in pieces) to give it into mine own hands, which, being so small a trifle, she accordingly did; and I, by the help of my brethren and sisters that could read, and a young man that came to court my sister, had quickly learned it and the primer also after it. Then of mine own accord I fell to reading the Bible, etc. (**10**: 181.)

Puritan elementary schools in Massachusetts. *English institutions carried to New England.*— Between 1628 and 1640 about twenty thousand English Puritans migrated from England to New England. They settled in towns and in a short time established conditions of living similar in many respects to those in England. There was continuity and similarity in social life except where difference in conditions demanded change.

Naturally, some functions which had been prominent at home were reduced to insignificance in the colonies; some which had been almost forgotten or had remained quite undeveloped in England gained unwonted importance in America. Almost every local official or body which existed in England reappeared in some part or other of the English colonies, although often with much altered powers and duties. . . . The choice was in the main restricted to familiar English institutions, for in the great variety of systems in different parts of the colonies there was scarcely an official or body which did not have its prototype in England. (**15**: 314.)

This continuity of social tradition was characteristic of the provisions made for education and schooling. Just as in England the maintenance of schools was largely a matter of parental, local, and ecclesiastical responsibility, so it was *at first* in Massachusetts.

Communal villages organized like English towns.— The Puritan emigrants were a very homogeneous group consisting largely of country squires and yeomen. They had been thrifty and prosperous at home, constituting the sturdiest part of the

English nation. Most of their leaders had been educated at Cambridge University. There was practically no shiftless or incompetent element. The numerous towns which they settled around Massachusetts Bay were organized as communal villages. These corresponded very closely to the organization of the towns, townships, or parishes, which were the units of local political government in England. This organization was particularly suited to the needs of New England and Puritan life. The land was owned by the town ; part of it was distributed to individuals ; part of it was retained for community purposes such as the common pasture, the common forest for wood or for pigs, etc. One town had a large flock of town sheep ; Salem had a town horse ; some towns disposed of mill sites and trading privileges, granted a blacksmith's monopoly, etc. An individual was not allowed to sell his land without the town's consent. This town organization corresponded to the congregational organization of the Puritan Church, that is, government by local self-governing congregations as distinguished from the government by the Pope and cardinals in the Catholic Church, or by the bishops in the English Episcopal Church.

Some English towns had provided local schools. — In England the towns or parishes, among other matters, had occasionally made local provisions for schools. These were usually Latin grammar schools. In the case of the larger incorporated towns there are numerous records. The following is an example of a town assisting in establishing a school, from the records of the Corporation of Sandwich in England, about 1563.

21st May, 5th Elizabeth.

It was moved by the maior what a godly acte and worthie of memorye yt shuld be to make and found a free schoole within the towne for the godly educacion of children in the knowledge and feare of God, and that God therefore would blesse the towne the better ; and required therefore, that every inhabitant within this towne would consider so good an acte and to knowe what every man wold willingly give thereto; and that he and his

brethren as they did judge that a very godly work so thei wold lardgely give of their porcions that the same might be established; which said motion liked well all men. And so with one consent they offeryd to give every man for the same worke according to their abillytye as followythe, viz.: (12: 13.)

These town schools were supported in various ways; sometimes by the income from lands set apart for that purpose; from the proceeds of mills at which the town inhabitants had to grind their corn; from the money paid for licenses to keep wine taverns; in some cases from tuition fees; from the common stock of the town corporation; and, finally, by "voluntary contributions," as in the case described above.

Similarly, New England towns established schools. — Down to 1647 the establishment of schools in New England followed the above practice which had existed in England. Individual towns, when moved by their leaders or by the feeling of common need, in town meeting assembled, voted to establish a school or to secure a schoolmaster and to devote certain funds for support. A general record of such actions is found in Winthrop's "History of New England," written in 1645. It reads as follows:

Divers free schools were created as at Roxbury — and at Boston (where they made an order to allow fifty pounds to the master and an house and thirty pounds to an usher, who should also teach to read and write and cipher, and Indians children were to be taught freely, and the charge to be yearly by contribution, either by voluntary allowance, or by rate of such as refused, etc., and this order was confirmed by the General Court. . . . Other towns did the like providing maintenance by several means. (15: 175.)

There are reports of such actions in the town records of Boston for 1635; Dorchester, 1639; Newbury, 1639; Salem, 1639; Dedham, 1643, and other towns at later dates. These provisions made for schooling by a few of the towns before 1647 were purely voluntary and patterned after the methods in some English towns.

Calvinistic, Genevan ideals also influential. — But other European influences and models besides those of England affected the development of Massachusetts schools. As was noted above, the English Puritans were dominated by the theories of Calvin, as were the Protestants of Holland and the Presbyterians of Scotland. The ideal state that furnished the pattern for the government of early Massachusetts was the religious republic of Geneva. In that city, as we have noted, under the dictatorship of Calvin, the religious and political governments went hand in hand, although the political was more or less subordinated to the religious. Eggleston says:

> Likewise Puritan theory made the state secondary and subordinate to the Church. Cartwright, the great Puritan of Elizabeth's reign, had embodied this in the maxim, "No man fashioneth his house to his hangings, but his hangings to his house"; and Hooker, the founder of Connecticut, was fond of repeating the proverb. When he shaped the Constitution of that colony in 1638 he made the government an humble auxiliary of the churches. Cotton found in the Scriptures a complete and infallible platform of politics. . . . That a court of law should have a clerk seems clear enough without a proof text, but Cotton must needs bolster this obvious expedient of common sense by citing the fact that there was a scribe's chamber in the court of the king's house in the time of the prophet Jeremiah. (**14** : 147.)

The Puritan religious state ordered provision for education. — As we have seen, from the sixth century in Europe it had been considered the privilege and duty of the Church to control and maintain schools. With this tradition, when the State became the handmaid of the Church, and especially of a Church in which reading and learning were necessary for vigorous life, it was natural that the Church should use the authority of its servant, the State, to require that parents and local authorities provide adequate means of education.

Voluntary actions of towns supplemented by state requirement. — This was what occurred in Massachusetts in 1642 and 1647. Although a few of the towns had provided schools, these voluntary efforts were not sufficiently general to assure

the universal education required by Puritan theory. As a consequence, the General Court (the central representative legislative authority, meeting at Boston) passed the famous law of 1642, which reads in part as follows:

> Taking into consideration the great neglect in many parents and masters in training up their children in learning and labor and other employments which may be profitable to the Commonwealth, [we] do hereupon order and decree that in every town the chosen men appointed for managing the prudential affairs of the same shall henceforth stand charged with the care of the redress of this evil, so as they shall be liable to be punished or fined for the neglect thereof upon any presentment of the grand jurors or other information or complaint in any plantations in this jurisdiction; and for this end they, or the greater part of them, shall have power to take account from time to time of their parents and masters and of their children, especially of their ability to read and understand the principles of religion and the capital laws of the country, and to impose fines on all those who refuse to render such accounts to them when required. (**20**: 58.)

This law is significant as an expression of the interest of the central government in matters educational and its intention to control such matters. But though it set up certain educational standards, it did not assure that these requirements would be met.

Neglect of education necessitated further action in 1647.— The law of 1642 definitely asserted that many of the people were neglectful in training their children for useful lives. But the law did not improve matters sufficiently. In 1646 the General Court commented on the "fewness of persons accomplished to such employments," as required education. As a result of the more favorable conditions prevailing in England after the convening of the Puritan Parliament in 1640, many of the more capable young men of the colonies returned to England. Partly to meet this situation the General Court passed the famous law of 1647 by which "the Puritan government of Massachusetts rendered probably its greatest service to the future."

Law of 1647 required towns to maintain schools. — This law reads as follows:

It being one chief point of that old deluder, Satan, to keep men from the knowledge of the Scriptures, as in former times, by keeping them in an unknown tongue, so in these latter times, by persuading from the use of tongues, that so at last the true sense and meaning of the original might be clouded by false glosses of saint-seeming deceivers, that learning might not be buried in the grave of our fathers in church and commonwealth, the Lord assisting our endeavors, — It is therefore ordered that every township in this jurisdiction, after the Lord has increased them to the number of fifty householders, shall then forthwith appoint one within their town to teach all such children as shall resort to him to write and read, whose wages shall be paid either by the parents or masters of such children, or by the inhabitants in general, by way of supply, as the major part of those that order the prudentials of the town shall appoint; providing, those that send their children be not oppressed by paying much more than they can have them taught for in other towns; and it is forthwith ordered that where any town shall increase to the number of 100 families or householders, they shall set up a grammar school, the master thereof being able to instruct youth so far as they may be fitted for the university, provided that if any town neglect the performance hereof above one year, that every such town shall pay £5 to the next school till they shall perform this order. (**20**: 60.)

Corner stone of American school system a Reformation product. — If we examine this law in the light of our discussion of Reformation schools, we may note the following points. In the first place, it is perhaps the clearest expression of the Protestant theory, as opposed to the alleged Catholic theory, to be found in any of the laws establishing schools. In the preamble attention is called to the idea that formerly the Scriptures had been kept in an unknown tongue, and the Church authorities had thus been able, through their false commentaries, to cloud the true meaning. In order to avoid a return to this condition, as a consequence of learning being buried in the graves of the older leaders, it was important that schools should be maintained. To assure this the Court placed on the statutes a law that became the corner stone of our modern American school system.

> Its importance [from this standpoint] lay in the requirement by a central authority that each local community of a certain population should sustain a school in some way, and its historical value consists in the principles thus established. The outcome of this law adopted in what was the most religious as it was the most intolerant period of New England history, has been the development of a national system of secular education for many millions of children professing nearly every creed known in the wide world. (**14**: 231.)

It was the State as handmaid of the Church that established this law, but it continued as a fixed ideal and tradition which prevailed even after the State had been completely secularized.

Towns empowered to support schools. — Moreover, the law of 1647 gave the towns the right to provide for the support of the local schools "by the inhabitants in general." Outside of New England this privilege was not granted in most states until the nineteenth century. It had been legalized by earlier laws in Massachusetts, namely, those of 1634 and 1638, which provided that the towns could use "rates" or collect a contribution from all citizens for any community enterprise; but the law of 1647 applied this principle specifically to school support.

Precedents for law of 1647 not entirely English. — While the practice of towns voluntarily providing schools had existed in England, yet the chief precedents for the *compulsory* establishment of town schools required by this law were not English. In England, from the time of Elizabeth down to the nineteenth century, it continued to be the generally accepted principle that it was not the business of the State to enforce education. The antecedents for the principle of compulsory establishment of schools are to be found in the general belief of the Protestant reformers in the necessity of reading the Bible. The synods of the Dutch (Protestant) Church in 1586 and 1618 had ordained that schools should be everywhere established by the Church authorities. The First Book of Discipline of the Scottish Church (1560) required the establishment of schools in connection with each church, and in

1633 the Scottish Parliament passed a law requiring the same. As we have seen, the German states in the sixteenth century acted on the principle of the State's compelling the establishment of schools. Thus Massachusetts is seen to be following the general practice of other Protestant countries, and England stands out as the most prominent exception to this general tendency. In a later chapter it will be shown that many of the Massachusetts towns failed to obey the spirit of the law of 1647.

Religious basis of elementary education in other colonies. — The same religious basis for elementary education prevailed generally in the other American colonies. In Connecticut the law of 1650 establishing a school system was almost an exact reproduction, word for word, of the Massachusetts law of 1647. Outside of New England, however, the active interest of the central governments in compelling the establishment of schools was generally lacking. We shall describe one example of such a situation, namely, Pennsylvania.

Church and neighborhood schools prevailed in Pennsylvania. — In colonial Pennsylvania, in contrast with Massachusetts, no general system of public schools was developed, but elementary education remained entirely in the hands of the churches and neighborhood organizations which were actuated by religious motives. William Penn had contemplated the organization of a system of public schools, but his Utopian ideals were not realized. The second general assembly of the colony (1683) passed a law requiring that all children be taught so that they could read the Scriptures and write by twelve years of age. The law soon became a dead letter, however, owing to changes in the government and the conflicting interests of such a cosmopolitan colony.

The assurance of liberty of religious worship attracted to Pennsylvania a great many Protestant religious emigrants

and exiles. These included Quakers, Baptists, Presbyterians, Methodists, German Lutherans, members of the German Reformed Church, Moravians, and others. They were generally believers in the Protestant principle of training to read the Bible as the road to salvation, and each group of religious enthusiasts set up a school as an essential part of its religious organization. These Church schools predominated in the eastern portions of the state.

In the more thinly settled and frontier parts of the state, where these compact religious communities were not found, the more mixed communities tended to establish subscription (voluntary), or "neighborhood" schools. These were generally the result of the voluntary coöperation of a few families, often stimulated by some energetic and wealthy father who desired that his children should have at least an elementary education. The neighborhood schools were most common in the western part of the state. Together with the Church schools they provided nearly all the elementary education available down to 1834.

Practice in religious elementary schools to be described. — This account of the Church and neighborhood schools of Pennsylvania will conclude our discussion of the influence of the Protestant Reformation on the establishment of elementary schools. We have seen that Protestantism introduced a new theoretical basis for universal elementary education, namely, the necessity of personal study of the Scriptures for religious salvation. The Protestant governments, however, were not always as active in establishing elementary schools as might be expected. In Germany the need for elementary schools was overshadowed by the need for classical schools to train Protestant leaders. In England, in Pennsylvania, and elsewhere, the establishment of schools was left to voluntary efforts of individuals or churches. In Calvinistic Massachusetts there was the most consistent application by the central government of the principle that elementary schools should be

maintained for religious salvation. The next two chapters will describe the curriculum and methods which prevailed down to the beginning of the nineteenth century in these schools organized on the religious basis.

BIBLIOGRAPHICAL NOTES

Concerning the general aspects of the Reformation. — 1. BEARD, C. *The Reformation of the Sixteenth Century.* Hibbert Lectures, 1883. (Williams and Norgate, London, 1903.) A masterly, unbiased and readable account. Especially good for Calvin.

2. GASQUET, F. A. *The Eve of the Reformation.* (G. P. Putnam's Sons, 1900.) A relatively unbiased account, from the Catholic point of view. Particularly good on the circulation of the Bible in England. See chap. viii.

3. POLLARD, A. F. *Thomas Cranmer* (Heroes of the Reformation Series). (G. P. Putnam's Sons, 1904.) Good for the English Reformation.

Concerning printing and the circulation of Reformation literature. — 4. PUTNAM, G. H. *Books and their Makers during the Middle Ages.* 2 vols. (G. P. Putnam's Sons, 1898.) A most thorough and readable account.

5. DRAPER, J. W. *The Intellectual Development of Europe.* 2 vols. (Harper & Brothers, revised edition, 1875.)

Concerning educational aspects of German Reformation. — 6. PAINTER, F. V. N. *Luther on Education.* (Lutheran Publication Society, Philadelphia.)

7. PAULSEN, F. *German Education.* (Charles Scribner's Sons, 1908.) A brief but scholarly and readable interpretation. The best book in English for this purpose.

8. NOHLE, E. History of German School System, *Report United States Commissioner of Education*, 1897–1898. Vol. I. An accessible and concrete statement.

9. RUSSELL, J. E. *German Higher Schools.* (Longmans, Green, and Co., revised edition, 1905.)

Concerning educational aspects of English Reformation. — The material relative to the English situation is not as satisfactory as that for the German situation.

10. WATSON, F. *English Grammar Schools to 1660.* (Cambridge University Press, 1909.) Contains some scattered material about elementary schools.

11. MONTMORENCY, J. E. G. *State Intervention in English Education, a Short History from the Earliest Times down to 1833.* (The Macmillan Company, 1902.) Very good. See also Montmorency's articles in Monroe's Cyclopædia of Education (No. 23 below), under Common Master of the Town, and Elizabethan Period.

12. STOWE, A. M. *Elizabethan Grammar Schools.* (Teachers College, New York, 1908.) Incidental material about elementary schools.

13. LEACH, A. F. *English Schools at the Reformation.* (Constable, 1896.) Incidental material about elementary schools.

Concerning Puritan schools of Massachusetts. — 14. EGGLESTON, EDWARD. *The Transit of Civilization.* (D. Appleton and Company, 1901.) An account of the social life in the American colonies in relation to European antecedents. Very attractive style. Should be read by all teachers of history of education. See also Eggleston's *Beginners of a Nation.* (D. Appleton and Company, 1897.)

15. CHEYNEY, E. P. *European Background of American History.* (Harper & Brothers, 1906.) Good for relation of New England and English town governments. See especially chap. xvi.

16. UPDEGRAFF, H. *Origin of the Moving School in Massachusetts.* (Teachers College, New York, 1908.) Extensive discussion of social basis of Massachusetts education.

17. MARTIN, G. H. *Evolution of the Massachusetts School System.* (D. Appleton and Company, 1894.)

Concerning early schools of Pennsylvania. — 18. WICKERSHAM, J. P. *History of Education in Pennsylvania.* (Lancaster, Pennsylvania, 1886.) Somewhat difficult to obtain. Contains accounts of establishment of schools by each of the many religious sects which settled in Pennsylvania.

Other books referred to. — 19. CUBBERLY, E. P. *Syllabus of Lectures on the History of Education.* (The Macmillan Company, 1904.)

20. CLEWES, E. W. *Educational Legislation of the Colonial Governments.* (Columbia University.)

21. GREEN, J. R. *Short History of the English People.*

22. HINSDALE, B. A. Documents Illustrative of American Educational History, *Report of United States Commissioner of Education*, 1892–1893. Pp. 1225–1414. A very convenient source for Massachusetts and Connecticut colonial legislation.

23. MONROE, P. Cyclopædia of Education. (The Macmillan Company, 1911.)

CHAPTER IV

ELEMENTARY SCHOOL CURRICULUM AND METHODS BEFORE THE NINETEENTH CENTURY

Main points of the chapter. — 1. Religious issues dominated the thought of Europe during the periods of religious strife which followed the Reformation. Hence the elementary school continued to be dominated by religious ideals.

2. The schools of Puritan Massachusetts are good representatives of this narrow religious conception.

3. Puritan life was characterized by active thought in the field of theology, but by indifference, opposition, ignorance, and superstition in the field of art, literature, and science.

4. The curriculum of the colonial elementary schools usually included reading and writing, occasionally included arithmetic, but practically never any other subjects.

5. Until 1750, religious books, especially the primer and the Bible, were used for teaching reading. The primer was originally a lay religious service book.

6. About 1750, spelling books began to be used, and Webster's speller, published in 1783, soon made spelling one of the most important subjects in the curriculum.

7. Because of poor methods and poor equipment fully two thirds of the time was wasted.

(*a*) Hours of the pupils' time were wasted by the method of individual recitation which was used.

(*b*) Hours of the teacher's time were wasted in making quill pens and "setting" copies and sums.

Curriculum dominated by religious traditions. — The previous chapter demonstrated that elementary schools established during the Reformation were dominated by religious ideals, as distinguished from the commercial ideals which prevailed in city vernacular schools at the end of the Middle Ages. Religious issues continued to occupy the attention of

Europe for a long time, and the sixteenth and seventeenth centuries were periods of intense religious strife. On the continent this strife culminated in the Thirty Years' War (1618–1648) between the Catholic forces led by the Emperor of the Holy Roman Empire, on one side, and the Protestant German states, assisted by Gustavus Adolphus of Sweden, on the other side. In England we have already noticed the developments in the religious controversies up to the period of the Puritan Commonwealth (1649–1660). Neither the Commonwealth nor the restoration of the monarchy (1660) brought religious peace, which was not assured until the Revolution of 1688.

The narrow religious conception of elementary education which had developed during the Reformation and the period of religious strife continued in force down to the nineteenth century. This conception was represented in its most intense and narrow form among the Massachusetts Puritans, and paralleled the narrowness of their life in its other aspects. We will consider some of these other aspects, particularly their ideas concerning literature, art, and science, as a basis for understanding their ideas concerning the elementary school curriculum.

Calvinistic ascetic ideals prominent in Puritan literature.— In the preceding chapter we noted the Puritan enthusiasm for the study of the Bible. Among other examples of popular Puritan literature was Bishop Bayle's "Practice of Piety, directing a Christian how to walke that he may please God." This was popular well down into the eighteenth century, and editions of it "tumbled headlong from the press in a succession so rapid that the booksellers of the time became confused in attempting to number them." It consisted largely of fine-spun theological discussions and directions for religious conduct that no one would think of reading to-day. Seventy-five pages were devoted to enforcing the duty of keeping the Sabbath. It forbade "trimming,

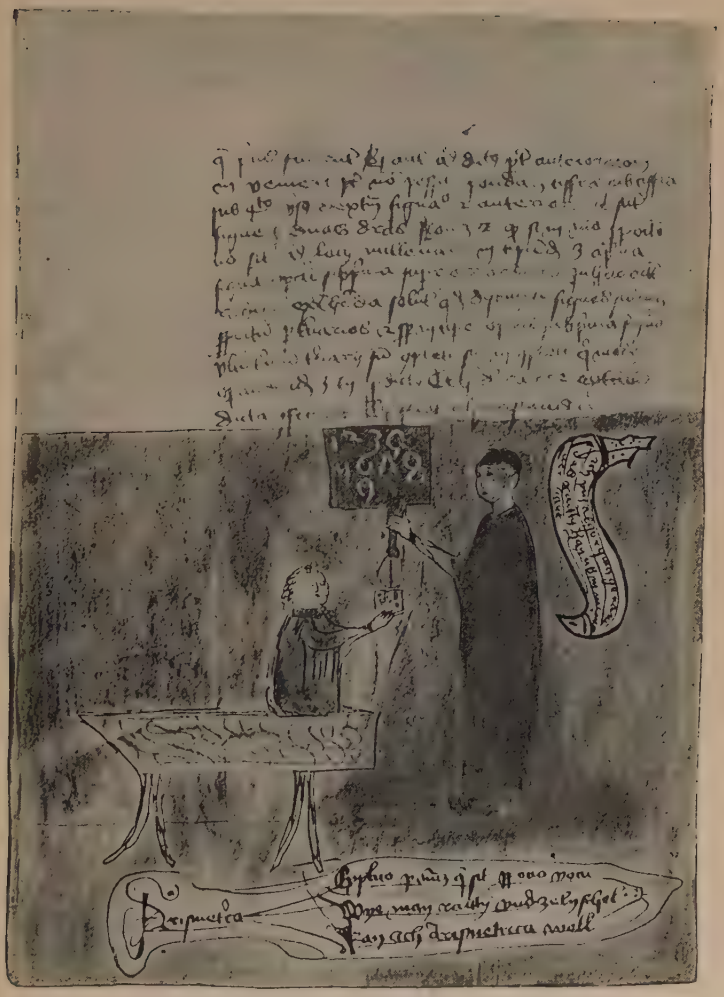
painting and pampering" of oneself on Sunday, which was "doing the divel's work upon God's Day"; also "Studying any Books of Science but the holy Scripture and Divinitie"; also all sports and even "all talking about worldly things."

Perhaps the most popular book was "The Day of Doom, or a Poetical Description of the Great and Last Judgment with a Short Discourse about Eternity," by Michael Wigglesworth, published in 1662. This was popular for over a hundred years and went through many editions. The following quotation is the answer of the judge to the plea of nonelect infants for mercy, and illustrates the Puritan idea of the child's character:

> You sinners are, and such a share
> As sinners may expect,
> Such you shall have; for I do save
> None but my own elect.
> Yet to compare your sin, with *their*
> Who lived a longer time,
> I do confess your's so much less
> Tho' every sin's a crime.
> A crime it is, therefore in bliss
> You may not hope to dwell;
> But unto you, I shall allow
> The easiest room in Hell. (**11**: 44.)

All phases of art neglected by Puritans. — Little secular English literature found a place in the Puritan colonies. The dominant theological interests and the opposition to worldly pleasures practically excluded it. Professor Norton says, "There is, I believe, no evidence that there was a copy of Shakespeare's plays in Massachusetts during the seventeenth century." Mr. Eggleston says, "Shakespeare was never mentioned or quoted by any American writer in the seventeenth century, so far as I know." (**1**: 139.)

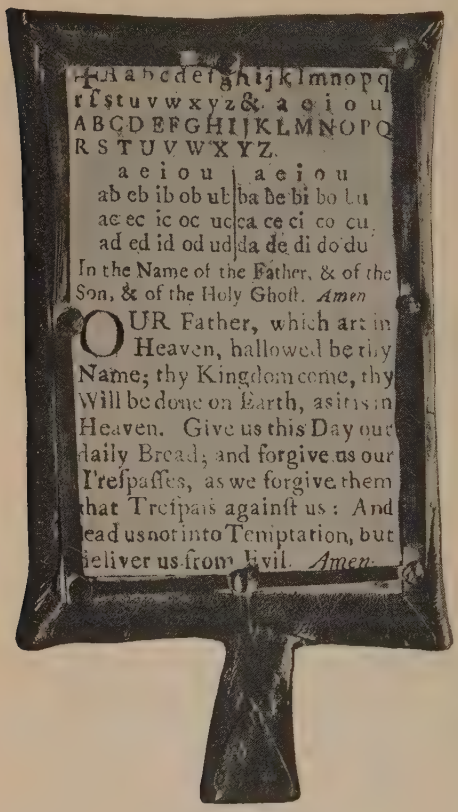
This neglect of secular literature is but one example of the statement that "Puritanism habitually regarded religion and



EARLIEST KNOWN PICTURE OF A HORNBOOK

From a manuscript of Scarabasco written about 1400. The teacher holds the book with numbers written upon it

beauty as antagonists." The same attitude (in addition to antiritualism) explains the neglect of music in the church service. Since all æsthetic pleasure was deemed reprehensible, church music was accused of "bewitching the mind with syrenes sound." In the seventeenth century singing grew so uncommon in New England that only some eight or ten tunes were in general use. There were places where only the name of the tune was familiar, the music having been "miserably tortured and twisted and quavered into a horrible medley of confused and disorderly noises." This neglect of music by the Puritans contrasts very strongly with the interest in music which continued in Germany, where the subject generally occupied an important place in the elementary school curriculum. Speaking of the intellectual life of the Puritans, Eggleston says :


abcdefghijklmnopq
rſſtuvwxyz& a e i o u
ABCDEFGHIJKLMNOPQ
RSTUVWXYZ.
a e i o u a e i o u
ab eb ib ob ub ba be bi bo bu
ac ec ic oc uc ca ce ci co cu
ad ed id od ud da de di do du
In the Name of the Father, & of the
Son, & of the Holy Ghoſt. Amen
OUR Father, which art in
Heaven, hallowed be thy
Name; thy Kingdom come, thy
Will be done on Earth, as it is in
Heaven. Give us this Day our
daily Bread; and forgive us our
Treſpaſſes, as we forgive them
that Treſpass againſt us: And
lead us not into Temptation, but
deliver us from Evil. Amen.

A HORNBOOK

From the time of Charles II. Bound in leather with a picture of Charles II on horseback stamped on the back

The emigrants had no considerable part in the higher intellectual life of the age; the great artistic passions of Shakespeare and Milton touched them not at any point. Bacon's contributions to the art of finding truth did not belong to them. Men may live in the same time without being intellectual contemporaries. (1: 2.)

Puritan science composed mainly of superstitious beliefs. — The current scientific traditions among the colonists were such as had been handed down from the days of Aristotle and Pliny. In astronomy they believed the earth to be the center of the universe. Astrology was esteemed as a practical science. The superstitions about the relation of the phases of the moon to harvesting were the same as prevailed in Germany in the ninth century. Comets were regarded as they are among the superstitious negroes of the South to-day. Birds were supposed to hibernate in winter in mud at the bottom of ponds. Living devils were the supposed agents of witches and other evil forces. In medical practice bleeding the patient was a favorite remedy, "the almanacs pointing out the proper time of the moon for letting blood according to the age of the patient." The usefulness of a plant or animal in curing any disease was supposedly indicated by some label which God had placed on it to make it resemble the disease. Hence, since toads had warts, "black powder" (charcoal) made by boiling, charring, and pulverizing the remains of toads was supposed to cure any human skin eruption, even smallpox.

Narrow intellectual life a factor in narrow curriculum. — This brief description of the intellectual life of the Puritan colonists may help in understanding the narrow curriculum of the elementary school. On the one hand, there existed intense mental activity and interest in the field of religion and theology; on the other hand, indifference and opposition in the field of art, ignorance and superstition in the field of science.

The curriculum of the Massachusetts elementary school, as established by the law of 1647, included only reading and

writing. This was not changed by law until 1789, when arithmetic, the English language, orthography, and decent behavior were added.

Religious books used as reading texts. — The textbooks used in the elementary schools convey the best idea of the subject matter taught. Practically all of the texts used down

The Uncle's Present,
A NEW BATTLEDOOR.
Published by Jacob Johnson, 147 Market Street Philadelphia.
A a
Almanack will you buy an Almanack?
B b
Buy a Broom: Mop, Brush, or hair broom!
G g
Great News, in the London Gazette!
H h
Hot spice ginger bread, all hot!
C c
Chairs to mend old chairs to mend?
D d
Dust ho! bring out your dust!
I i
Images very fine, very pretty.
K k
Knives to grind, or sizzors to grind?
E e
Eels, live eels; large silver eels.
F f
Fowls, live fowl, or fat Chicken?
L l
Lobster buy my live lobster?
M m
Milk below maids. Milk from the cow.

BATTLEDOOR BOOK

This consisted of a sheet of stiff paper folded so as to make three or more pages. It replaced the hornbook in some places

to the Revolution were of English origin or direct imitations of English models. In 1690 John Locke, the English philosopher, speaking of English elementary schools, said that he knew of no books being used besides the hornbook, primer, Psalter, Testament, and Bible. These same books continued to be the regular textbooks in American elementary schools until the period from 1750 to 1800 when they began to be displaced by "spelling books."

The hornbook, from which children generally learned their letters, is shown on page 70. It was really not a book but a wooden paddle, on which was fastened a single sheet of paper covered with a sheet of transparent horn. On the paper were usually printed the alphabet, the syllables *ab*, *eb*, *ib*, etc., and the Lord's Prayer. After learning his letters and syllables from the hornbook, the pupil took up the primer.

SPECIMEN PAGE FROM "THE NEW ENGLAND PRIMER"

Primers developed from medieval religious manuals. — The primer is one of the oldest English books, dating back to the Middle Ages. It was originally the simplest manual of devotion for the laity, containing the Creed, the Lord's Prayer, the Ten Commandments, a few psalms, etc. It was to be learned by heart by adults and children, and the clergy were enjoined to provide instruction in it.

With the addition of the alphabet and lists of syllables and words, the primer became the standard text for instruction in learning to read. The material in it was altered to correspond to changes in religious beliefs. Thus when the Lutheran doctrines began to circulate in England, primers embodying

them were published. Sir Thomas More, complaining of these, said, "Of all these heresies the seed is sown and prettily sprung up in these little books before. For the primer and Psalter, prayers and all were translated and made in this manner by heretics only." (**4**: 33.) Likewise, during the period of the Puritan Commonwealth, under the leadership of Cromwell, Parliament passed the following law forbidding the use of primers which had been prepared during the period of kingship:

Thursday the 24th of Julii 1651.
Resolved by the Parliament
That all Primers formerly used in the time of the Kingship in this nation, be suppressed, and shall from henceforth be no further used in any School, either Publique or Private, within this Commonwealth. (**4**: 361.)

"New England Primer" patterned after English models.— The English primers were used in the Massachusetts schools until "The New England Primer" appeared about 1690 and was almost universally adopted. In the Boston "Almanack for the year of the Christian Empire, 1691," appeared the following:

Advertisement:

There is now in the press and will suddenly be extant, a Second Impression of the *New England Primer enlarged*, to which is added, more *Directions for Spelling;* the *Prayer of K. Edward the 6th*, and *Verses made by Mr. Rogers the Martyr, left as a Legacy to his Children.*
Sold by *Benjamin Harris*, at the *London Coffee-House* in *Boston.*

For about a hundred years this book was the chief beginning reading book of American schools.

Religious character of contents of "New England Primer." — The contents of "The New England Primer" show clearly its religious character and purpose. One of the earliest extant editions, that of 1727, which is reprinted by Ford (**5**),

opens with certain religious admonitions such as "Let not thy heart envy sinners, but be thou in the fear of the Lord all the day long." This is followed by three pages showing the alphabet and syllables, and three pages of lists of words for spelling. These words are arranged in groups of one, two, three, four, five, and six syllables. Then comes the famous picture alphabet with a rime for each letter, the initial rime being

In Adam's Fall
We sinned all;

and the final rime,

Zaccheus he
Did climb the Tree
His Lord to see.

"An Alphabet of Lessons for Youth," made up of texts from the Bible and other sources, was also included. This began:

The LION.
The Lion ranges round the Wood,
And makes the leſſer Beaſts his Food.
The WHALE.
The Whale's the Monarch of the Main,
As is the Lion of the Plain.

SPECIMEN PAGE FROM "THE NEW ENGLAND PRIMER"

A Wise Son makes a glad Father, but a foolish Son is the heaviness of his Mother.

Better is a little with the Fear of the Lord, than great Treasure and Trouble therewith.

Then follow in order the Lord's Prayer, the Creed, the Ten Commandments, various religious verses, the names of the books in the Bible; "the numeral Letters and Figures,

which serve for the ready finding of any Chapter, Psalm, and Verse in the Bible"; the picture of John Rogers being burned at the stake; eight pages of verses supposed to have been written by Rogers to his children. This was followed by "The Shorter Catechism agreed upon by the Reverend Assembly of Divines at Westminster," which began:

Quest. What is the chief End of man?
Answ. Man's chief End is to Glorify God and to enjoy Him for ever.

Praise to GOD for learning to Read.

THE Praises of my Tongue
I offer to the LORD,
That I was taught and learnt so young
To read his holy Word.

12 That I was brought to know
The Danger I was in,
By Nature and by Practice too
A wretched slave to Sin.

13 That I was led to see
I can do nothing well;
And whether shall a Sinner flee
To save himself from Hell.

SPECIMEN PAGE FROM "THE NEW ENGLAND PRIMER"

The catechism filled some forty pages and concluded the book.

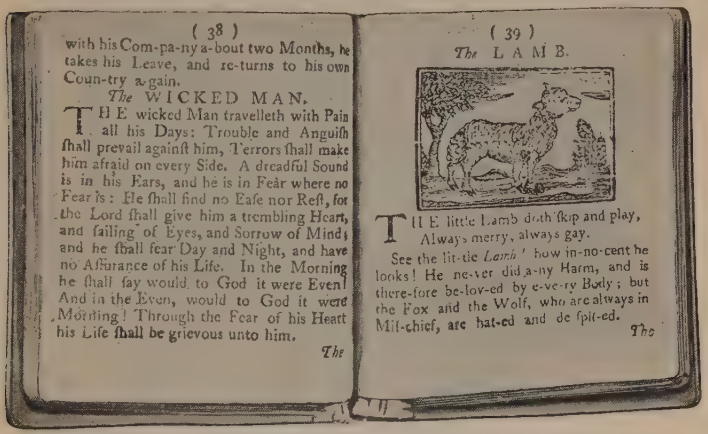
Catechisms considered most important part of the primers.—Other primers, either modifications of the English primers or of "The New England Primer," also circulated in the colonies. One of the most popular of these was Emerson's "The Evangelical Primer." This was recommended by Noah Webster, by the geographer Morse, and by the president of Yale College. Like the other primers it was full of religious material and contained a minor doctrinal catechism, a minor historical catechism based on Bible history, the Westminster Assembly's Shorter Catechism, and a few hymns. Here are some quotations from the doctrinal catechism:

What will be your condition in hell? I shall be dreadfully tormented. What company will be there? Legions of devils, and multitudes of sinners of the human race.

Will company afford me any comfort in hell? It will not, but will probably increase my woes.

If you should go to hell, how long must you continue there? For ever and ever. (**2**: 94.)

The catechisms were considered the most important part of the primers. They were drilled into the children in school and at home. In some communities it was the practice to


(38)

with his Com-pa-ny a-bout two Months, he takes his Leave, and re-turns to his own Coun-try a-gain.

The WICKED MAN.

THE wicked Man travelleth with Pain all his Days: Trouble and Anguiſh ſhall prevail againſt him, Terrors ſhall make him afraid on every Side. A dreadful Sound is in his Ears, and he is in Fear where no Fear is: He ſhall find no Eaſe nor Reſt, for the Lord ſhall give him a trembling Heart, and failing of Eyes, and Sorrow of Mind; and he ſhall fear Day and Night, and have no Aſſurance of his Life. In the Morning he ſhall ſay would to God it were Even! And in the Even, would to God it were Morning! Through the Fear of his Heart his Life ſhall be grievous unto him.

The

(39)

The LAMB.

THE little Lamb doth ſkip and play, Always merry, always gay.

See the lit-tle *Lamb!* how in-no-cent he looks! He ne-ver did a-ny Harm, and is there-fore be-lov-ed by e-ve-ry Body; but the Fox and the Wolf, who are always in Miſ-chief, are hat-ed and de ſpit-ed.

The

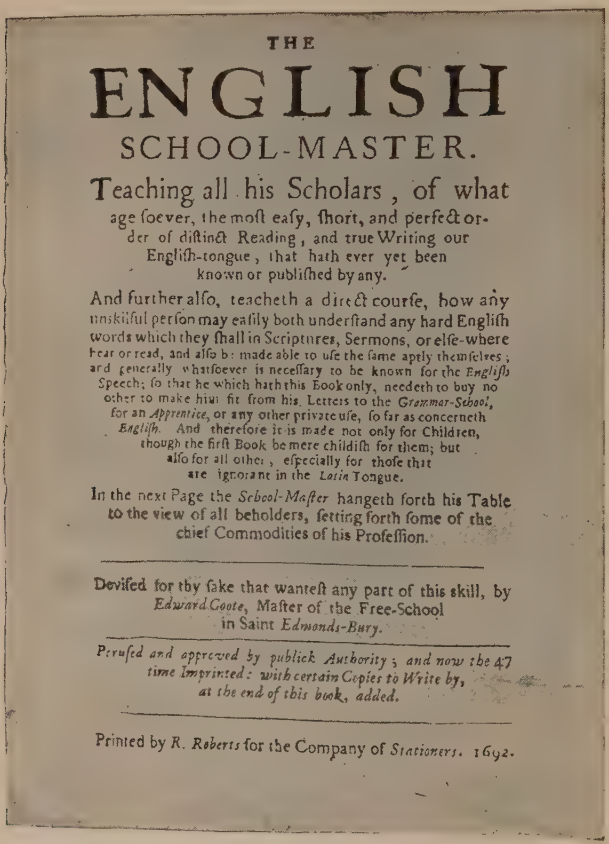
SPECIMEN PAGE FROM "THE ROYAL PRIMER"

Authorized by King George II

set apart certain Sundays for public recitation of the catechism before the whole congregation, when each child was asked a few questions by the minister. "In short, this humble little primer was a chief tool for making sure that the children, or, as Jonathan Edwards called them, 'young vipers and infinitely more hateful than vipers to God,' should grow up into sober Christian men and women." (**2**: 99.)

Primers replaced by spelling books (1740–1800). — The first competitors of the primers as elementary reading books

were what came to be known as "spellers" or spelling books. These books were more practical, and hence not so exclusively



THE

ENGLISH

SCHOOL-MASTER.

Teaching all his Scholars, of what age soever, the most easy, short, and perfect order of distinct Reading, and true Writing our English-tongue, that hath ever yet been known or published by any.

And further also, teacheth a direct course, how any unskilful person may easily both understand any hard English words which they shall in Scriptures, Sermons, or else-where hear or read, and also be made able to use the same aptly themselves; and generally whatsoever is necessary to be known for the *English* Speech; so that he which hath this Book only, needeth to buy no other to make him fit from his Letters to the *Grammar-School*, for an *Apprentice*, or any other private use, so far as concerneth *English*. And therefore it is made not only for Children, though the first Book be mere childish for them; but also for all other, especially for those that are ignorant in the *Latin* Tongue.

In the next Page the *School-Master* hangeth forth his Table to the view of all beholders, setting forth some of the chief Commodities of his Profession.

Devised for thy sake that wanteſt any part of this skill, by *Edward Coote*, Master of the Free-School in Saint *Edmonds-Bury*.

Perused and approved by publick Authority; and now the 47 time Imprinted: with certain Copies to Write by, at the end of this book, added.

Printed by *R. Roberts* for the Company of *Stationers*. 1692.

TITLE-PAGE OF COOTE'S "ENGLISH SCHOOL-MASTER"

The first edition appeared in 1596 and contained more secular and practical material than the primers

religious in character. One of the first was published by Edmund Coote as early as 1596 and bore the title, "The English Scholemaister, teaching all his schollars of what

THE GRAMMAR SCHOOLE.

your minde when I heard it firſt. Yet ſetting my ſelfe to make ſome triall of it, for the reuerence I bare to him of whom I heard it and for that he ſhewed me experience of it in a child not fowre yeeres olde; I found it the eaſieſt, pleaſanteſt and ſhorteſt way of all, where one would begin in a priuate houſe with little ones playing. The manner is thus. 1. You muſt teach them, as I ſayde, to call their fiue vowels, and to pronounce them right: Which they will preſently learne, if you do but only cauſe them to repeat them oft ouer, after you, diſtinctly together thus; *a, e, i, o, u.* after the manner of fiue bels, or as we ſay; one, two, three, fowre, fiue.

6. To teach little ones to pronounce their letters, and to ſpell before they know a letter, is the pleaſanteſt way

How little ones will preſently pronounce their fiue vowels.

2 Then teach them to put the conſonants in order before euery vowell, and to repeate them oft ouer together; as thus: to begin with *b*, and to ſay ba, be, bi, bo, bu. So *d*. da, de, di, do, du. *f*. fa, fe, fi, ſo, fu. Thus teach them to ſay all the reſt, as it were ſinging them together, la, le, li, lo, lu; The hardeſt to the laſt, as ca, ce, ci, co, cu. and ga, ge, gi, go, gu. In which the ſound is a little changed in the ſecond and third ſyllables. When they can do all theſe, then teach them to ſpell them in order, thus; What ſpels b-a? If the child cannot tell, teach him to ſay thus; b-a, ba: ſo putting firſt *b*. before euery vowell, to ſay b-a ba, b-e be, b-i bi, b-o bo, b-u bu. Then aske him againe what ſpels b-a, and he will tell you; ſo all the reſt in order. By oft repeating before him he will certainly do it. After this if you aske him, how he ſpels b-a, he will anſwere b-a ba. So in all others.

To put the cõſonants in order before the vowelles pronoũcing them.

To teach to ſpell theſe thus, putting the conſonants firſt.

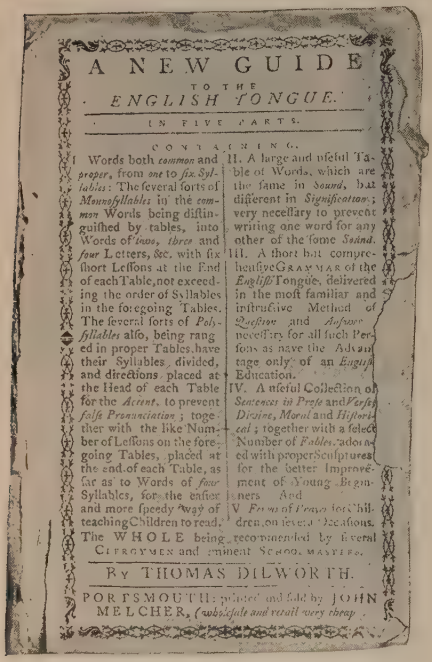
Next theſe teach them to put the vowels firſt, as to ſay, ab, eb, ib, ob, ub. Then thus, a-b ab, e-b eb, i-b ib, o-b ob, u-b ub. After; what ſpelles a-b, e-b, &c. Thus to goe with them backward and forward, croſſe, in and out vntill they can ſpell any word of two letters. Then you may adioine thoſe of three letters: Afterwards, all the hard ſyllables, to tell what any of them ſpels, til they be perfect in al, or as you ſhall thinke meete. By this meanes, and by a little repeating of the letters of the Alphabet ouer before them, by three or fowre letters together, as they ſtand in order, ſo as they

Repeating the letters of the Alphabet, by route.

AN IMPROVED METHOD OF TEACHING READING FROM JOHN BRINSLEY'S "THE GRAMMAR SCHOOLE"

One of the most important pedagogical works of the seventeenth century

age so ever the most easie, short and perfect order of distinct readings and true writings our English tonge." It cost a shilling and contained seventy-nine pages. About thirty-two pages were given to the alphabet and spelling, eighteen pages to a short catechism, "necessary observations of a Christian," prayers and psalms, five pages to chronology, two to writing copies, two to arithmetic, and the rest to a list of hard words alphabetically arranged and sensibly explained. The first book of this type to achieve any great popularity in America was Dilworth's "New Guide to the English Tongue," which was published in England in 1740. This speller was the most popular one used in New England during the middle of the eighteenth century.



A NEW GUIDE
TO THE
ENGLISH TONGUE.
IN FIVE PARTS.
CONTAINING.

I Words both *common* and *proper*, from *one* to *six Syllables*: The several sorts of *Monosyllables* in the *common* Words being distinguished by tables, into Words of *two*, *three* and *four* Letters, &c. with six short Lessons at the End of each Table, not exceeding the order of Syllables in the foregoing Tables. The several sorts of *Polysyllables* also, being ranged in proper Tables, have their Syllables divided, and directions placed at the Head of each Table for the *Accent*, to prevent *false Pronunciation*; together with the like Number of Lessons on the foregoing Tables, placed at the end of each Table, as far as to Words of *four* Syllables, for the easier and more speedy way of teaching Children to read. The WHOLE being recommended by several Clergymen and eminent School-Masters.

II. A large and useful Table of Words, which are the same in *Sound*, but different in *Signification*; very necessary to prevent writing one word for any other of the same *Sound*.

III. A short but comprehensive GRAMMAR of the *English* Tongue, delivered in the most familiar and instructive Method of *Question* and *Answer* necessary for all such Persons as have the Advantage only of an *English* Education.

IV. A useful Collection of *Sentences in Prose* and *Verse*, *Divine*, *Moral* and *Historical*; together with a select Number of *Fables*, adorned with proper Sculptures for the better Improvement of Young Beginners. And

V *Forms of Prayer* for Children on several Occasions.

By THOMAS DILWORTH.

PORTSMOUTH: printed and sold by JOHN MELCHER, (wholesale and retail very cheap.)

SPECIMEN PAGE FROM DILWORTH'S "NEW GUIDE TO THE ENGLISH TONGUE"

The popular forerunner of Webster's speller. Notice statement of contents, many parts of which were reproduced by Webster

Webster's speller made spelling a standard elementary-school subject. — After the Revolution Noah Webster's "Blue Backed Speller" gradually came to be the dominant textbook for primary schools. Besides the great work on his dictionary Webster (1758–1843) wrote a great many other

books, contributed to magazines and newspapers, and was active as a lawyer, judge, and member of the Massachusetts legislature. After graduating from Yale in 1778, he taught school for a number of years. Feeling the need for better textbooks, he compiled his spelling book in 1782, while teaching in New York, and it was published in 1783. The book became so popular that the royalties from its sale furnished the sole support of his family from 1807 to 1827, while he was working on his dictionary. The original formidable name, "The First Part of a Grammatical Institute of the English Language," was adopted on advice of the president of Yale College. The name was later changed to "The American Spelling Book."

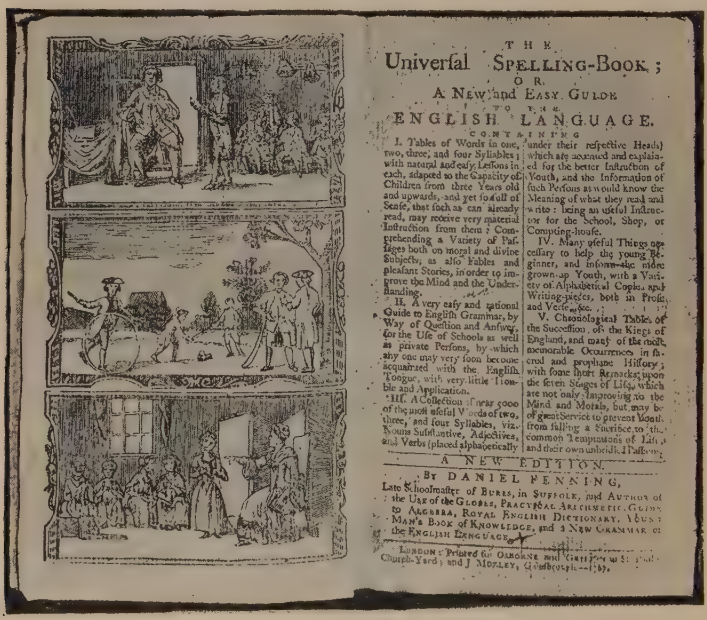
THOMAS DILWORTH

From Dilworth's "New Guide to the English Tongue"

The general adoption of Webster's speller had two very important effects. In the first place it tended to standardize and simplify English spelling. The necessity of this becomes evident when reading manuscripts of the eighteenth century, for one is struck with the variety of ways in which the same word was spelled. In the second place spelling became

a craze, and "spelling matches" or "spell downs" became fashionable. As a consequence, good spelling came to be one of the chief measures of school training, as it has continued to be among the conservatives of to-day.

Contents of Webster's speller.—Webster's speller consisted largely of an expansion of the lists of spelling words which



THE
Universal SPELLING-BOOK;
OR,
A New and Easy GUIDE
TO THE
ENGLISH LANGUAGE.

CONTAINING

I. Tables of Words in one, two, three, and four Syllables; with natural and easy Lessons in each, adapted to the Capacity of Children from three Years old and upwards, and yet so full of Sense, that such as can already read, may receive very material Instruction from them: Comprehending a Variety of Passages both on moral and divine Subjects, as also Fables and pleasant Stories, in order to improve the Mind and the Understanding.

II. A very easy and rational Guide to English Grammar, by Way of Question and Answer, for the Use of Schools as well as private Persons, by which any one may very soon become acquainted with the English Tongue, with very little Trouble and Application.

III. A Collection of near 5000 of the most useful Words of two, three, and four Syllables, viz. Nouns Substantive, Adjectives, and Verbs (placed alphabetically under their respective Heads) which are accented and explained for the better Instruction of Youth, and the Information of such Persons as would know the Meaning of what they read and write: being an useful Instructor for the School, Shop, or Compting-house.

IV. Many useful Things necessary to help the young Beginner, and inform the more grown-up Youth, with a Variety of Alphabetical Copies, and Writing-pieces, both in Prose and Verse, &c.

V. Chronological Tables of the Succession of the Kings of England, and many of the most memorable Occurrences in sacred and prophane History; with some short Remarks upon the seven Stages of Life, which are not only improving to the Mind and Morals, but may be of great Service to prevent Youth from falling a Sacrifice to the common Temptations of Life, and their own unbridled Passions.

A NEW EDITION.

By DANIEL FENNING,
Late Schoolmaster of Bures, in Suffolk, and Author of the Use of the Globes, Practical Arithmetic, Guide to Algebra, Royal English Dictionary, Young Man's Book of Knowledge, and a New Grammar of the English Language.

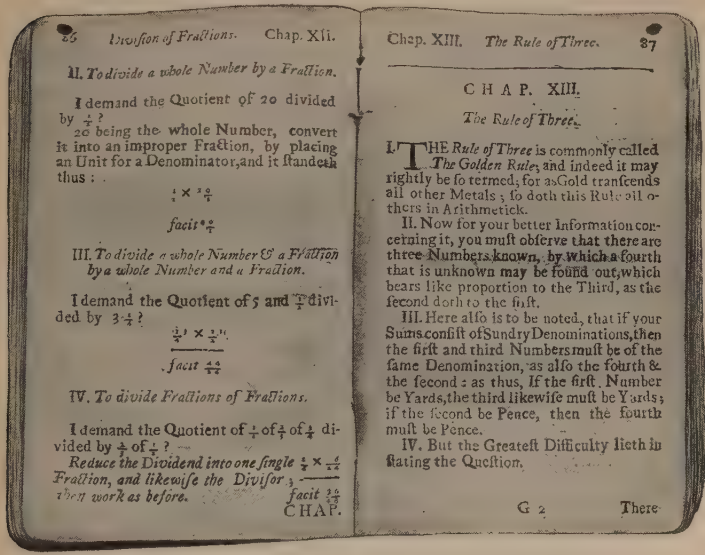
London: Printed for Gardner and Crowder, w[illegible] Church-Yard; and J. Medley, Gosport.—[illegible].

SPECIMEN PAGES OF FENNING'S "UNIVERSAL SPELLING BOOK" (LONDON, 1787)

Note the material on grammar and a chronological table of important historical events

had occupied three pages in "The New England Primer" described above. To these were added interspersed reading matter. This, however, did not consist of the prayers, creeds, etc., which were found in the primers, but was very miscellaneous and heterogeneous in character, often made up of unrelated phrases, sentences, or paragraphs. Dilworth's book

had contained "A Select Number of Fables, adorned with proper Sculptures [pictures]," and Webster copied this characteristic, printing eight illustrated fables. Instead of the religious catechism of the primers, Webster's book concluded with a "moral catechism," which discussed such topics as humility, mercy, revenge, industry, etc.



26 *Division of Fractions.* Chap. XII.

II. *To divide a whole Number by a Fraction.*

I demand the Quotient of 20 divided by $\frac{1}{2}$?

20 being the whole Number, convert it into an improper Fraction, by placing an Unit for a Denominator, and it ſtandeth thus:

$\frac{1}{1} \times \frac{20}{1}$

facit $\frac{20}{1}$

III. *To divide a whole Number & a Fraction by a whole Number and a Fraction.*

I demand the Quotient of 5 and $\frac{1}{2}$ divided by $3\frac{1}{2}$?

$\frac{5\frac{1}{2}}{3\frac{1}{2}} \times \frac{2}{2}$

facit $\frac{11}{7}$

IV. *To divide Fractions of Fractions.*

I demand the Quotient of $\frac{1}{2}$ of $\frac{1}{3}$ of $\frac{1}{4}$ divided by $\frac{1}{4}$ of $\frac{1}{5}$?

Reduce the Dividend into one ſingle Fraction, and likewiſe the Diviſor; then work as before.

$\frac{\frac{1}{2} \times \frac{1}{3} \times \frac{1}{4}}{\frac{1}{4} \times \frac{1}{5}}$

facit $\frac{5}{3}$

CHAP.

Chap. XIII. *The Rule of Three.* 27

CHAP. XIII.

The Rule of Three.

I. THE *Rule of Three* is commonly called *The Golden Rule*, and indeed it may rightly be ſo termed; for as Gold tranſcends all other Metals; ſo doth this Rule all others in Arithmetick.

II. Now for your better Information concerning it, you muſt obſerve that there are three Numbers known, by which a fourth that is unknown may be found out, which bears like proportion to the Third, as the ſecond doth to the firſt.

III. Here alſo is to be noted, that if your Sums conſiſt of Sundry Denominations, then the firſt and third Numbers muſt be of the ſame Denomination, as alſo the fourth & the ſecond: as thus, If the firſt Number be Yards, the third likewiſe muſt be Yards; if the ſecond be Pence, then the fourth muſt be Pence.

IV. But the Greateſt Difficulty lieth in ſtating the Queſtion.

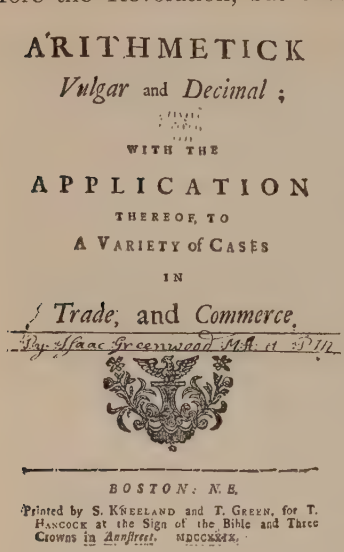
G 2 There

SPECIMEN PAGES FROM HODDER'S "ARITHMETIC"

This is the Boston edition (1719) of an English arithmetic, the first one printed in America. Note the value placed on the "Rule of Three" (simple proportion)

Arithmetic common but not universal in colonial curricula. —Although arithmetic was not required by law in Massachusetts before 1789, it was often taught in the elementary schools. In the eighteenth century a reputation as an "arithmeticker" was a very valuable recommendation for any teacher. This indicates the current estimate of the difficulty and value of the subject. Very few teachers were competent

to teach more than the fundamental operations. Printed text-books were little used, the traditional rules and operations being recorded by each child in a manuscript book similar to the one upon which the teacher depended. There were several English arithmetics which were sparingly used before the Revolution, but these were superseded after 1788 by American arithmetics in the same way that Webster's speller replaced the English spellers. The arithmetics of Nicholas Pike of Massachusetts were most famous. Pike's complete work, containing five hundred twelve pages, with a rule for nearly every page, was used in the grammar schools and universities. An abridged edition issued in 1793 was intended for the elementary schools.


ARITHMETICK
Vulgar and *Decimal*;
WITH THE
APPLICATION
THEREOF, TO
A VARIETY of CASES
IN
Trade, and *Commerce*.
By Isaac Greenwood M.A. et P.M.
BOSTON: N.E.
Printed by S. KNEELAND and T. GREEN, for T. HANCOCK at the Sign of the Bible and Three Crowns in *Annstreet*. MDCCXXIX.

TITLE-PAGE OF GREENWOOD'S "ARITHMETIC"

The first arithmetic written by an American (1729)

Narrow scope of curriculum suggested by subjects not included. — This discussion has demonstrated that the curriculum of the American elementary school down to the American Revolution included reading and writing as the fundamental subjects, with perhaps a little arithmetic for the more favored schools. Spelling was emphasized toward the end of the period. The subjects that had no place were composition, singing, drawing, object study, physiology, nature study, geography, history, secular literature, manual training.

Evidence of narrow curriculum from individual testimony. — Further evidence of the narrowness of the elementary

curriculum is found in the testimony of men who were educated about 1800. "Peter Parley" (Samuel G. Goodrich), born in 1793, was educated in a rural school in Connecticut. The following quotation contains a brief description of his teachers and an account of the studies and the methods which they used:

I was six years old when I first went to school. My teacher was "Aunt Delight," a maiden lady of fifty, short and bent, of sallow complexion and solemn aspect. The children were called up one by one. . . . She then placed the spelling book before the pupil, and with a penknife pointed, one by one, to the letters of the alphabet, saying "What's that?"

I believe I achieved the alphabet that summer. Two years later I went to the winter school at the same place kept by Lewis Olmstead — a man who made a business of ploughing, moving, carting manure, etc., in the summer, and of teaching school in the winter. He was a celebrity in ciphering, and Squire Seymour declared that he was the greatest "arithmeticker" in Fairfield County. *There was not a grammar, a geography, or a history of any kind in the school.* Reading, writing and arithmetic were the only things taught, and these very indifferently — not wholly from the stupidity of the teacher, but because he had forty scholars, and the custom of the age required no more than he performed. (2: 116.)

Similar evidence, with certain additional data, is contained in the following statement by Noah Webster:

When I was young, the books used were, chiefly or wholly, Dilworth's *Spelling Books*, the Psalter, Testament, and Bible. No geography was studied before the publication of Dr. Morse's small books on that subject, about the year 1786 or 1787. No history was read, as far as my knowledge extends, for there was no abridged history of the United States. Except the books above mentioned, no book for reading was used before the publication of the third part of my *Institute*, in 1785. In some of the early editions of that book, I introduced short notices of the geography and history of the United States, and these led to more enlarged descriptions of the country. In 1788 at the request of Dr. Morse, I wrote an account of the transactions in the United States, after the Revolution; which account fills nearly twenty pages in the first volume of his octavo editions.

Before the Revolution, and for some years after, no slates were used in the common schools: all writing and the operations in arithmetic were on paper. The teacher wrote the copies and gave the sums in arithmetic; few or none of the pupils having any books as a guide. Such was the condition of the schools in which I received my early education.

The introduction of my *Spelling Book*, first published in 1783, produced a great change in the department of spelling.

No English grammar was generally taught in common schools when I was young, except that in Dilworth, and that to no good purpose. In short the instruction in schools was very imperfect. (**12**: 196.)

Separate reading and writing schools in Boston.— Most of the colonial children were educated in these rural and village schools, since only about 3 per cent of the population lived in cities in 1800. In Boston, according to Morse's "Geography" (edition of 1800), there were seven schools supported wholly or partly at the public expense. Three of these, said Morse, are "English grammar schools in which the children of *both* sexes, from seven to fourteen years of age, are instructed in spelling, accenting and reading the English language with propriety; also in English grammar and composition, together with the rudiments of geography." In three other schools "the same children are taught writing and arithmetic. The schools are attended alternately, and each of them is furnished with an usher or assistant."

There was also the Latin grammar school, which admitted children at ten years of age. At this time (1800) Boston had a population of about twenty-five thousand. While its schools were not as good as those of some of the neighboring towns, they were much better than the great majority of the village and rural schools which were kept by temporary teachers, generally by a man in winter for about two months, and by a woman in summer for two months. The Boston teachers, as a rule, were engaged permanently in teaching.

The "doubled-headed" system which existed in Boston was an interesting survival, in separate buildings, of the mediæval and Reformation types of schools. The "writing and

reckoning" school, as we have seen, originated during the Middle Ages to meet the needs of commercial classes. The Boston reading schools represented the Reformation idea of elementary education, expanded somewhat so as to include grammar and the rudiments of geography. This double-headed system existed in Boston for a long time. "Even when the town built new schoolhouses, the upper room was devoted to the reading school, and the lower to the writing, the masters never changing rooms. As no provision was made in the reading schools for any exercise in writing, no such exercise was required there." When it was proposed to abolish the double-headed system early in the nineteenth century "the reading masters were found as incompetent to teach penmanship as the writing masters had always been to teach anything else." (**9**: 36, 57.)

Account of work in Boston schools by W. B. Fowle, who attended them (1800).—In the writing schools it was ordered that the children

> should begin to learn arithmetic at eleven years of age; that, at twelve they should be taught to make pens. Until eleven years old, all the pupils did, in a whole forenoon or afternoon, was to write one page of a copy book, not exceeding ten lines. The pupils were never taught to make their own pens, and it occupied the master and usher two hours of every session to prepare them. In the reading school, the course was for every child to read one verse of the Bible, or a short paragraph of the Third Part [Webster's Reader]. While one class was reading the other studied the spelling lesson. The lesson was spelled by the scholars in turn, so that the classes being large, each boy seldom spelled more than one or two words. In grammar, the custom was to recite six or more lines once a fortnight, and to go through the book three times before any application of it was made to what was called parsing. No geography was prepared for the schools [until after 1800]. Morse's abridgment [of his larger geography] began to be a reading book about 1800. Printed arithmetics were not used in the Boston schools until after the writer left them [after 1800], and the custom was for the master to write a problem or two in the manuscript of a pupil every day (**9**: 56–64.)

Dame schools prepared for Boston reading and writing schools. — The Boston reading schools were sometimes known as English grammar schools. Children were required to be seven years of age and to know how to read before they could enter either the reading or writing schools. They were expected to learn the alphabet and the first steps in reading in private schools, commonly known as "dame schools." The teaching in these schools was described by Henry K. Oliver. After describing how he was taught the alphabet by the same method which Peter Parley described above, he said:

> From this school I was removed to another, Madam Tileston's, in Hanover, below Salem Street, of the same general character, where I was taught elementary reading and spelling, after the same ancestral fashion — that is, I received about twenty minutes of instruction each half day, and as school was kept three hundred and sixty minutes daily, I had the privilege of forty minutes' worth of teaching, and three hundred and twenty minutes' worth of sitting still (if I could), which I could not — playing, whispering, and general waste of time, though occasionally a picture-book relieved the dreary monotony.
>
> Both of these teachers taught as well as they knew how — and as well as the times in which they lived and worked permitted them to know. Nobody taught any better so far as I have learned. Nor was there anything like the philosophy of teaching known or thought of, so far as I can judge on retrospection, by any teacher into whose hands I fell.
>
> There were no schools systematically graded; there were no blackboards; there were no globes, nor ordinary apparatus in schools I attended. I never saw a full-sized map, nor illustrative picture of any sort suspended against the school wall. (**12**: 209.)

Similar narrowness of German elementary curriculum. — In Europe the elementary-school curriculum at the end of the eighteenth century was very similar to that in Massachusetts. In Germany it was probably a little broader and better; in England it was probably narrower. In Germany it had always included music, which had been an important element in German religious life but which the Puritans had practically discarded. The poor condition of the German elementary schools is thus stated by Paulsen:

In the Prussian regulations of 1763 the substance of teaching was still restricted to reading, writing, religious instruction, singing and a little arithmetic. Beyond this only a Berlin reading book was mentioned, giving general information about God, the world and mankind, together with a small booklet destined for the instruction of village children in various necessary and useful knowledge. . . . As for the great masses of village schoolmasters, however, the former state of things remained unaltered. They had never learned anything beyond what they had picked up themselves at some village school or other in their earlier days. In larger villages, where there was a church, the post of schoolmaster was regularly filled by the parish clerk; in the smaller villages by artisans, especially those of sedentary habits, eking out a scanty income, to which they considered it worth while to add the few pence they received as school money. Indeed, as late as 1738 . . . the Prussian country schoolmasters were granted the tailoring monopoly within their respective villages for the improvement of their economical position. Some reading and writing, with the addition, at most, of a little arithmetic, was, of course, all that such men could manage; method of any kind was out of the question. It is not surprising, therefore, that, in many cases, the instruction never went beyond the first rudiments. Even in schools of a little higher standing, especially where the attendance was irregular, many children never achieved anything beyond a little reading and knowing a few things by heart. [For many] the instruction was never anything else but a torture, protracted through years, from saying the alphabet and formation of syllables to the deciphering of complete words, without any real success in the end, while writing was nothing but a rough and wearisome tracing of the letters, the net result of all the toil being the gabbling of the Catechism and a few Bible texts and hymns, learned by heart over and over again. (**8**: 139–141.)

Description of a Swiss school kept by shoemaker. — An example of a school for the poorer classes of a Swiss town was the school in Burgdorf where Pestalozzi taught in 1799.

At this time this school contained seventy-three children. The master was a shoemaker who taught the children in his own house, and worked at his trade in the intervals of teaching. Siegfried's elements of instruction, the Heidelberg Catechism, and the Psalms were the only things taught and the only means of teaching. And yet at that time Burgdorf was one of the smaller places, not only in Switzerland but in Europe, where most attention was given to popular education. (**10**: 175.)

In the higher school of the town, intended for the children of the wealthier citizen class, writing, arithmetic, Bible history, geography, and Swiss history were also taught.

Methods of teaching. *Individual recitation of memorized material.* — The method of instruction in the elementary schools has been suggested in some of the examples quoted. It was individual instruction, not class instruction. In reading, writing, and arithmetic the pupils were taught as individuals, not as groups. They were generally roughly classified into three groups according to their reading ability, but each pupil in a group was taught in the same way as if he had been alone. In the lowest class were those who were just learning their letters and syllables and could puzzle out a few words by spelling them; in the second class, those who could read somewhat without spelling the words, using the primer; and in the highest class, the more expert who read in the Bible. Very little of the teacher's activity was actual instruction; it was simply hearing recitations. Giving of information by the teacher or inductive discussions with groups of children were almost unheard of.

In arithmetic the memorizing of number combinations and of scores of rules to be followed mechanically in computation was the characteristic method. If pupils mastered the famous "Rule of Three," they were considered advanced calculators. This rule, that of proportion, was very important in colonial money transactions because so many kinds of currency were in circulation. In Pike's arithmetic it was defined thus: "The Rule of Three teacheth, by having three numbers given, to find a fourth, that shall have the same proportion to the third, as the second to the first."

In teaching writing the teacher's chief concern was making quill pens and "setting copies" for each pupil. As a consequence there was little time left for the examination and criticism of the pupil's writing. Richard Mulcaster, an English schoolmaster of the sixteenth century, criticizing this

method, said masters "spend their whole time about setting copies, whereas fewer copies, and more looking to his hand would help the child more." The first engraved copy slips issued in America were prepared and published by a celebrated Boston schoolmaster, Caleb Bingham, in 1796. (**2**: 11. Cf. **4**: 188.)

Two thirds of time wasted through poor equipment and methods.—The traditional methods of instruction were so wasteful that children would attend school for years and get only a smattering of reading and writing. One of the chief causes of this waste of time was lack of equipment. For instance, in the teaching of writing, engraved copy slips and steel pens practically revolutionized the method, leaving the teacher free to assist, suggest, and criticize. The introduction of slates in the early nineteenth century, although not hygienic, was an improvement from the standpoint of relieving the teacher of making pens. Some teachers never taught the pupils to make their own

"THE AMERICAN INSTRUCTOR OR THE YOUNG MAN'S BEST COMPANION"

This frontispiece suggests some of the more practical subjects taught in the "mathematical schools" and academies for older students

pens; in the Boston writing schools it was required that this be done when children were twelve years old, but the practice did not follow the rule.

The absence of blackboards was another factor in causing waste. Mr. Johnson (**2**: 107) says the earliest reference to a school blackboard that he knows of was in the preface of an arithmetic published in 1809 in Philadelphia. It was to be "about 3 feet square, painted or stained with ink, and hung against the wall in a convenient place for a class to assemble around it." Thus with blackboards came class instruction. Moreover, one example or copy written on the blackboard might serve for a whole arithmetic or writing class. Speaking of attendance on a mathematical school in Boston in 1813–1814, during his winter vacation from Harvard College, a writer says:

> On entering [the] room, we were struck at the appearance of an ample *Blackboard* suspended on the wall, with lumps of chalk on a ledge below, and cloths hanging at either side. I had never heard of such a thing before. There it was — forty-two years ago — that I first saw what now I trust is considered indispensable in every school — the blackboard — and there I first witnessed the process of analytical and inductive teaching. (**9**: 38.)

Improved management of religious schools considered next. — The analytical and inductive teaching referred to in the last sentence represented an enormous advance over ordinary eighteenth-century methods, and was a part of the Rousseau-Pestalozzian movement of the later eighteenth and early nineteenth centuries, which revolutionized the ideas and methods of elementary education. This revolution in elementary education was the culmination of a revolution in social life by which secular interests overthrew the ecclesiastical control of life and thought which prevailed for such a long time in Europe. This process of the secularization of social life, including education, will be traced in several subsequent chapters. Before taking up this movement, however, we will

consider briefly in the next chapter certain exceptional improvements which were made in school management while the schools were still on a religious basis.

BIBLIOGRAPHICAL NOTES

Concerning Puritan social life and thought. — 1. EGGLESTON, EDWARD. *The Transit of Civilization.* (D. Appleton and Company, 1901.) See No. 14 in bibliography of preceding chapter.

Concerning old textbooks and actual school conditions. — 2. JOHNSON, CLIFTON. *Old Time Schools and School-Books.* (The Macmillan Company, 1904.) A profusely illustrated and interesting book.

3. LITTLEFIELD, G. E. *Early Schools and School Books in New England.* (Club of Old Volumes, Boston, 1904, limited edition.)

4. WATSON, F. *English Grammar Schools to 1660.* (University Press, Cambridge, 1909.) Discusses primers, etc., in England.

4*a*. TUER, A. W. *History of the Hornbook.* (Leadenhall Press, London, 1897.)

5. FORD, P. L. *The New England Primer.* (Dodd, Mead & Company, 1897.) The standard authority. Contains reprint of 1727 edition of *The New England Primer.*

6. *The New England Primer.* (Ginn and Company.) Inexpensive facsimile reproduction of a copy of *The New England Primer* of about 1790.

7. WICKERSHAM, J. P. *History of Education in Pennsylvania.* (Lancaster, Pennsylvania, 1886.) Somewhat difficult to obtain. Chap. x, pp. 187–209, discusses textbooks and methods.

Other books referred to in the chapter. — 8. PAULSEN, F. *German Education.* (Charles Scribner's Sons, 1908.)

9. BARNARD, H. *American Educational Biography.* (C. W. Bardeen.)

10. GUIMPS, ROGER DE. *Pestalozzi, his Aim and Work.* (D. Appleton and Company, 1890.)

11. MITCHELL, D. G. *American Lands and Letters.*

12. BARNARD, H. *American Journal of Education*, Vol. XXVI.

CHAPTER V

IMPROVED CLASSROOM MANAGEMENT. BRETHREN OF CHRISTIAN SCHOOLS. MONITORIAL SYSTEMS

Main points of the chapter. — 1. The achievements of the Brethren of the Christian Schools and the work of the monitorial schools of Lancaster and Bell are two exceptions to the rule of complacent inefficiency in classroom management described in the previous chapter.

2. The Christian Brethren were an order of Catholic laymen organized in 1684 in France to maintain free schools for the poor.

3. The careful selection and training of the members of the order, and the preparation of excellent teachers' manuals by La Salle, the founder of the order, were the basis of their very superior teaching.

4. The Brethren carried out on a large scale the practical innovation of simultaneous class instruction, in place of the prevailing method of individual instruction.

5. The Lancaster-Bell system developed in England about 1800 and included many innovations in class management in addition to the employment of the older or more competent children as teachers of the others.

6. Like La Salle, Bell and Lancaster both possessed especial talent for the details of school organization and formulated these in teachers' manuals.

7. The Lancasterian system was superior to the prevailing methods described in the previous chapter in making a careful study of the mechanics of school keeping; in organizing the routine so as to eliminate waste of time; in paying especial attention to schoolroom construction; in devising apparatus; in providing a careful, flexible classification of the children; and in making school work an active social process.

Failure for centuries to realize possibility of improvements. —The preceding chapter showed that there was little expansion of the elementary curriculum during the three hundred years from the beginning of the sixteenth century to the end of the eighteenth. Moreover, there was little departure from the methods of instruction which had been copied from the

home, where with little or no special equipment each child was taught as an individual. There was little appreciation of the fact that since children were assembled in school in groups it was possible to use a group method that would secure better results than the individual method. Practically no one dreamed of the possibility of an elaborate special technique of instruction in which teachers should be trained. All that a teacher was supposed to need was an elementary knowledge of school subjects and the ability to make children behave. Nor was there any appreciation of the vast economy and improvement that would result from very slight changes in the equipment and arrangement of the schoolroom.

Two exceptional examples of improved class management.—There were, however, a few notable exceptions to this general attitude of complacent ignorance. The exceptions that we shall consider were the schools of the Brethren of the Christian Schools in France and the monitorial schools of Lancaster and Bell in England and America. In these schools there was little departure from the narrow curriculum of the religious elementary school, but there was a radical improvement in the methods of classroom management. The conception of the purpose of education remained the same, but the means of attaining it were more effective.

Brethren of the Christian Schools. *Catholic Reformation improved education.*— In the chapter on the Reformation it was stated that the difference in fundamental theory between the Protestant and Catholic churches made training of children to read the Bible more important for the former than the latter. But in spite of this difference in theory, the Protestant Reformation really increased the provision of elementary schools very little in many places, and the conditions of elementary education in Protestant countries were often not superior to those in Catholic countries.

The Catholic Reformation, which was centralized in the efforts of the Council of Trent (1545–1563), aimed at moral

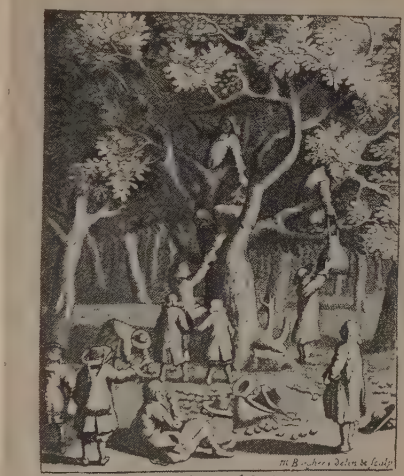
and educational reform in Catholic countries. In the field of secondary education this reform was carried out by the Jesuits, whose schools were the most efficient in Europe. This efficiency was due to the systematic organization of the schools, the thorough preparation of the teachers, and their devotion to the profession of teaching.

Christian Brethren organized to maintain free schools for the poor (1684).—In the field of Catholic elementary education there was no single organization as large and effective as the Jesuits, but the Brethren of the Christian Schools maintained equally effective elementary schools in France on a smaller scale. The Brethren were an association of Catholic laymen (not priests) organized in 1684 to devote themselves to the instruction of poor children in elementary schools. This purpose is set forth in the Rule (or constitution) of the society as follows:

> The Institute of the Brethren of the Christian Schools is a society, the profession of whose members is, to hold schools gratuitously. . . . This Institute is very greatly needed because working people and the poor, who are generally but little instructed themselves, and are obliged to spend the whole day in working for their living and that of their children, cannot themselves give them the teaching that is necessary for them. (**4**: 122.)

Met the need for trained teachers in France.—The necessity for this organization arose, not from indifference of the Catholic Church to education, but from the lack of trained teachers. Although archbishops and bishops and councils and synods strongly favored schools and ordered parish priests to maintain them, the latter had little time or inclination to devote themselves to teaching. Their other parish duties absorbed their time; moreover, the position of schoolmaster was not as remunerative as that of priest. Consequently, as was also the case in Protestant countries, most of the teachers available were poor, inefficient laymen, often engaged in some other occupation at the same time. Thus, in 1686

one of the French bishops described the teachers in his diocese as "gamesters, drunkards, profligates, ignorant and brutal. They spend their time playing cards in the public houses, or playing the violin in places of amusement or village feasts. In the churches they are not suitably dressed, and instead of studying church music, they sing during the services anything that comes into their heads." (**4**: 55.) The Brethren of the Christian Schools were organized especially to meet this situation in France.

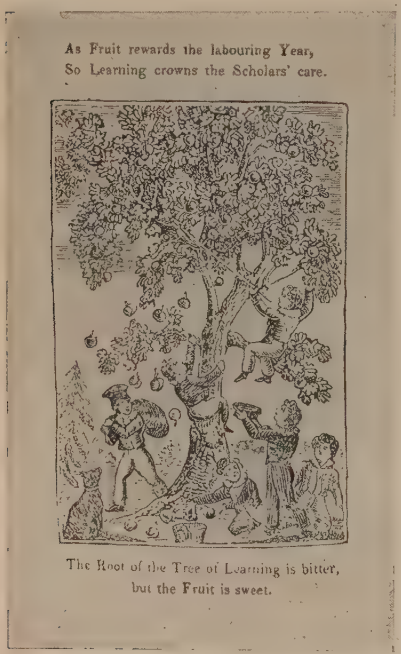

Ecce Puer fructus, ad quos ludi ipse Magister,
Et Pater invitant, & bene notus Amor,
Sæpe ulta est raptos crudelis Betula mulos,
Nunc ut devites verbera carpe Puer.

THE TREE OF KNOWLEDGE

From "A Short Introduction of Grammar generally to be used" (Oxford, 1709). This and the following cut show the use of the Tree of Knowledge as an illustration in textbooks for children

La Salle organized teachers for professional improvement.—The organization of the Brethren was due to the efforts and self-sacrifice of Jean Baptiste de La Salle (1651–1719), of noble French family, wealthy in his own name, and enjoying a good income as a canon of the cathedral at Rheims. La Salle became interested in the education of the poor as a result of assisting in the organization of a number of charity schools for boys. He became adviser to the masters of these schools, established them in a house near his own, organized their lives, and directed their teaching. Gradually he acquired

such an interest in the work that he decided to devote his life to the development of an organization the purpose of which was stated above. He first organized a community of such teachers in his native town of Rheims, next in Paris, and finally in all the larger cities of France. At the time of his death in 1719 the organization numbered 27 houses, 274 brothers, with 9000 pupils. By the time of the French Revolution (1789) there were 121 houses, 800 brothers, and 36,000 children being taught in the schools.


As Fruit rewards the labouring Year,
So Learning crowns the Scholars' care.
The Root of the Tree of Learning is bitter,
but the Fruit is sweet.

THE TREE OF KNOWLEDGE

From Rusher's "Reading Made Easy," of later date than the preceding cut

An order of laymen pledged to elementary teaching. — The organization depended entirely on charity for its support, the members pledging themselves to remain poor and to accept absolutely no fees or other remuneration from scholars. In order to assure definitely that the organization would not develop into a wealthy order, as had been the case with so many Catholic orders that had begun pledged to poverty, the founder's rule excluded all priests, thus eliminating the possibility of enjoying rich benefices. In order to keep the society devoted only to elementary education, and to keep it from turning its attention to the more interesting fields of secondary and higher education, the study and

the teaching of Latin were prohibited at first (according to Wilson), but later regulations provided for such instruction. In order to assure further that members would remain devoted to their profession of free elementary instruction, the young men who were received as candidates for membership as early as sixteen years of age were permitted to take vows for only three-year periods, and were not allowed to take perpetual vows before they were twenty-five. By these means a very select and very devoted body of teachers was secured.

Teachers' manuals established definite standards and methods. — La Salle possessed unusual talent for organizing methods of teaching. In order to give his society the permanent benefit of his ideas, he wrote manuals of instruction laying down general principles of teaching and detailed devices for classroom management. The most important of these was his "Conduct of Christian Schools," written about 1695, and revised and printed in 1720. Brothers of the society, when sent to open a school, found in this manual definite directions to follow in having a building constructed, in arranging the schoolroom, in securing books and supplies, and in managing and teaching the classes. Brothers were never sent singly to open a school, but always in pairs, and since they had been thoroughly trained in teaching before being sent out, the schools which they opened always attracted especial attention by their superiority. So much was this the case that it commonly happened that parents who could afford to send their children to pay schools sent them to the charity schools of the Brethren instead. This aroused the jealousy of the guilds of writing masters, whose income was threatened in this way, and often resulted in persecution of the Brethren.

Practical innovation of simultaneous class instruction. — Apart from the general training in teaching and management which the Brethren received, there is one special phase of their methods which accounts in a considerable degree for their superiority, namely, the substitution of class instruction

for the methods of individual instruction which we described in the last chapter. The application of this method to teaching reading and arithmetic is described in the "Conduct of Christian Schools" as follows:

> While one reads, all the other children in the class follow the words in their books. The master must watch very carefully to see that all read to themselves, what one is reading aloud, and from time to time he must call on some of them, to read a few words, that he may take them by surprise, and make sure that they are really following the reading. (**4**:).

In an arithmetic lesson,

> After the children have done their sums on paper, instead of correcting them himself, the master will make the children find out their mistakes for themselves, by rational explanation of the processes. He will ask them, for instance, why in addition of money they begin with the lowest coin, and other questions of the same sort, so as to make sure that they have an intelligent understanding of what they do.

The significance of these practices is evident when compared with the methods described in the last chapter. As stated by one of La Salle's biographers:

> This may seem absurdly simple; so do many valuable discoveries and inventions of genius when once they have been made, and adopted into general use; and it never must be forgotten that this method of teaching, that is, giving a lesson to the whole class of children together, *was* De la Salle's invention, and then quite new.

It is a mistake, however, to credit La Salle with the invention of the method of simultaneous instruction, since it was described at length by Comenius in his "Great Didactic," published in Latin in 1657 (see below, p. 143, paragraph 6). It is probable that other reformers also advocated and used this method before La Salle, but he deserves especial credit for its practical application on a large scale.

The schools of the Christian Brethren were without doubt the most effective elementary schools in existence before the French Revolution (1789).

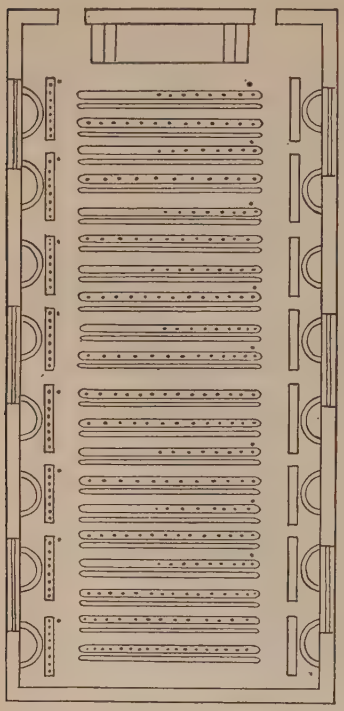
Lancasterian monitorial system. *Pedagogical talent of Bell and Lancaster.*—As noted above, the improved methods of instruction which prevailed in the schools of the Christian Brethren were due largely to the pedagogical talent of one

OLD-TIME METHOD OF INDIVIDUAL INSTRUCTION

Note the convenient bunch of switches

man and the manuals for teachers which he prepared. Similarly, in the case of the monitorial systems of elementary schools which remain to be described, the success was due to two individuals, Andrew Bell (1753–1832) and Joseph Lancaster (1778–1838) of England, who developed manuals of instruction which included, in addition to the element of

mutual instruction, hundreds of other provisions for the economical management of a schoolroom. The relation of the activities of these men to the establishment of elementary schools for the poor in England and America will be discussed in Chapters XI and XII. Here we shall confine the discussion to their methods of classroom management, and shall emphasize particularly Lancaster's organization because it was copied so extensively in New York, Philadelphia, and other American cities during the first quarter of the nineteenth century.



A PLAN OF A LANCASTERIAN MONITORIAL SCHOOLROOM

Note seats for approximately three hundred pupils

Lancaster resourceful in organizing children. — The name "monitorial," or mutual-instruction system, is derived from the practice of employing the older or the more intelligent and competent children to teach small groups of the other children. This practice had been followed in many instances in the secondary schools of Europe before the nineteenth century; hence Bell and Lancaster do not deserve credit for discovering it, but they were peculiar in carrying out the practice on a large scale and in coupling it with many other novel devices in elementary-school teaching. Lancaster started to employ the practice in a semi-charity school which

he had opened in London about 1798, when about twenty years of age. Describing Lancaster's activity at this time, his biographer says:

> He had many of the qualifications of a great teacher — zeal, self-confidence, ingenuity in devising methods, intuitive insight into the nature of children, an ardent love for them, and rare power of managing them. For the good or delight of his pupils, no labor was too severe and no sacrifice too onerous. For them, he spent body, mind and estate (and as much of the estate of other people as they could be induced to part with); on holidays he led large parties of them for excursions into the suburbs; on Sundays from forty to sixty of them, bringing their own bread and butter used to take tea with him; and during the severe winter of 1799–1800, he fed and clothed some sixty or eighty of them. (**6**: 15.)

Monitors managed all routine matters, including recitations. — In order to handle the increasingly large number of pupils who flocked to his school, Lancaster adopted the monitorial scheme and elaborated it until the teacher had nothing to do

> except to organize, to reward, to punish and to inspire. When a child was admitted a monitor assigned him his class; while he remained, a monitor taught him (with nine other pupils); when he was absent, one monitor ascertained the fact and another found out the reason; a monitor examined him periodically, and when he made progress, a monitor promoted him; a monitor ruled the writing paper; a monitor had charge of the slates or books; and a monitor-general looked after all the other monitors. Every monitor wore a leather ticket, gilded and lettered "Monitor of the First Class," "Reading Monitor of the Second Class," etc. (**6**: 7.)

Lancaster's manuals complete guides for school management. — Lancaster described his methods of organizing schools on the monitorial plan in a number of publications, the first of which was printed in London in 1803 and was entitled "Improvements in Education." One of the latest of his books was printed in Baltimore, Maryland, in 1821, and was entitled "The Lancasterian System of Education with Improvements." This manual gives complete directions for organizing

a Lancasterian school, from the construction of the building down to the minute details of conducting recitations. By following these directions explicitly any one who was competent in dealing with children could readily organize in any city a school of from three hundred to eight hundred children under one master, that would soon be as orderly and run as smoothly as Lancaster's own school in London.

Summary of improvements in Lancasterian system. — The Lancasterian scheme of class management paralleled very closely the method of organizing and drilling an army. While many educational reformers, particularly those who usually are emphasized in the histories of education, condemn and reject everything that savors of military drill as pernicious and noneducative, it is possible to show that the Lancasterian scheme marked a very significant advance over contemporary elementary schooling such as was described in the previous chapter. The following summary indicates briefly wherein this superiority consisted and shows that there was much more in Lancaster's scheme than the simple employment of monitors.

1. *Thorough study of mechanics of school keeping.* — As has been noted above, Lancaster made a careful and thorough study of classroom management and of the mechanics of instruction. This has been a prominent element in the work of most successful educational institutions and systems, and from this standpoint the schools of Lancaster would be classed with those of John Sturm, the great German schoolmaster of the sixteenth century, and with those of the Jesuits and of the Christian Brethren, which in their day were all acknowledged to be the most effective schools in existence.

2. *Routine organized to eliminate waste of time.* — Economy of time was a fundamental element in the Lancasterian school routine. While the passing of classes, taking attendance, changing work, etc., were organized so as to consume the minimum of time, the teaching was so organized as to keep all the pupils employed all the time. It is said that Lancaster invented the mottoes, "A place for everything and everything in its place" and "Let every child at every moment have something to do and a motive for doing it." One example of timesaving was in the disposal of hats, which would be quite a problem in a schoolroom seating several hundred pupils. Each boy's hat was fastened by a string in such a way that when not being worn it hung on his back, suspended around his neck. At a given signal all boys tossed their hats

Groups of children reciting to monitors from reading charts or wall slates

Monitor leading pupils to seats. Note hats hanging on backs to save time and cloak rooms

Monitor inspecting written work at signal, "Show slates"

LANCASTERIAN MONITORIAL SYSTEM

into this suspended position. Another example of timesaving was the taking of attendance by the monitors through a rapid inspection to note vacant places, instead of calling the roll.

3. *Schoolroom construction and apparatus attended to.* — Special attention was devoted to the construction of the schoolroom, to lighting, ventilation, slant of floor, seating, elimination of unnecessary noise, etc. Great ingenuity was shown in devising apparatus that would assist in teaching. One of the first innovations, which Lancaster probably copied from Bell, was the use of a thin layer of sand, spread on the desk for learning to write. A child wrote in the sand with a pointed stick, then erased it by passing a long straight stick across the desk. Later Lancaster introduced slates into common use. Blackboards and reading charts were suspended around the room, and the small groups of ten gathered around these when reciting to the monitors.

4. *Careful, flexible classification of children.* — Children were carefully classified according to attainments into larger or smaller groups. This careful grading was an important innovation, and it was carried out so effectively in relation to the time program that often a child could recite with a group at one stage of advancement in arithmetic and with another group at a different stage of advancement in reading or spelling.

5. *School work made an active social process.* — Studying and learning were made active social processes instead of being passive individual processes, as in the ordinary undergraded school of that time. A child was always studying or working or reciting as a member of a group, usually producing some objective result to which the monitor or the rest of the class gave attention. Emulation was the chief social instinct appealed to, as was the case with the Jesuits, and with very effective results. The child's instinct of physical activity was appealed to by the large amount of marching back and forth and the alternation of seat work and standing recitations.

6. *Led to training of teachers.* — Lancasterian teachers were carefully selected and trained, and they commonly undertook teaching as a permanent career. To attain any success at all with a large school on the Lancasterian plan, a teacher had to be a somewhat superior manager; hence there resulted a few large groups of children under a few efficient teachers, in contrast with the prevailing condition of many small groups under hundreds of shiftless, incompetent persons. Not only was a superior class of masters or head teachers thus developed, but schools for training monitors soon came into existence and these developed later into regular normal schools. One of the clearest examples of this occurred in Philadelphia, where the model school for monitors established about 1818 became the city normal school in 1848.

Routine drill superior to habituation to shiftlessness.— These six characteristics of the Lancasterian schools show how superior they were to the ordinary schools in which two thirds of a child's time was wasted, as described at the end of the previous chapter. While many of the particular devices which Lancaster used have been superseded by better ones, the general principles expressed in the above summary are still generally recognized as fundamental in effective school keeping. Moreover, even though educational idealists do deny that there is any educative value in the military drill which Lancaster inaugurated in the schoolroom, most educators will admit that effective military drill is better than a loose, lazy, idle, passive, inattentive, slipshod existence which encourages the formation of many bad habits and no good ones. In succeeding chapters we shall have no further occasion to refer to the improvements in the routine factors of school keeping, but the educational importance of these should not be lost sight of in the long account of changing educational ideals which is to follow. In the next chapter we shall describe the development of secular interests which furnished the basis for the non-religious ideals in modern elementary education.

BIBLIOGRAPHICAL NOTES

Concerning the Brethren of the Christian Schools. — 1. Brother Azarias (pseudonym for Mullany, P. F.). *Essays Educational.* (W. H. Young & Co., New York, 1905.) A sympathetic Catholic account. See pp. 207–240, entitled the Simultaneous Method.

2. Adamson, J. W. *Pioneers of Modern Education, 1600–1700.* (The Macmillan Company, 1905.) Chap. xii is entitled St. Jean Baptiste de la Salle.

3. Barnard, H. *American Journal of Education*, Vol. III, pp. 437–448, contains sketch of the history of the organization, its rules, and the conduct of its normal schools in France.

4. Wilson, Mrs. R. F. *The Christian Brothers.* A brief epitome of the standard French work on La Salle by A. Ravelet.

Concerning the monitorial schools. — 5. GILL, J. *Systems of Education.* (D. C. Heath & Co.) The best account from the standpoint of class management.

6. SALMON, DAVID. *Joseph Lancaster.* (Longmans, Green, & Co., 1904.) The best biographical and historical account, based on complete study of sources. See pp. 7–16 for description of the methods.

7. BARNARD, H. *American Journal of Education*, Vol. X, pp. 355–370, 467–502.

8. FITCH, J. C. *Educational Aims and Methods.* (The Macmillan Company, 1900.) See Lecture XI.

PART III. TRANSITION TO SECULAR BASIS FOR ELEMENTARY EDUCATION

CHAPTER VI

DEVELOPMENT OF SECULAR INTERESTS

Scientific Discovery; Religious Toleration; Nationalism; Democracy

Main points of the chapter. — 1. The development of strong secular interests gradually overthrew the narrow religious conception of life and education which followed the Reformation.

2. The substitution of the scientific method of inductive verification of hypotheses in place of the acceptance of Greek authority was the first step in this direction.

3. Newton was the greatest genius in this scientific development. Francis Bacon was a popular writer about scientific methods which he did not understand.

4. In France, under the leadership of Voltaire, the Newtonian methods and results were applied in the criticism of social abuses which had prevailed under ecclesiastical and political despotism.

5. The introduction of religious toleration was a second factor in decreasing the power of ecclesiasticism. England and Prussia are examples.

6. The development of strong centralized governments created rivals of the ecclesiastical powers. Prussia under the benevolent, despotic Hohenzollern kings is the best example.

7. Modern democracy, with its principles of freedom and self-government, proved another check to ecclesiastical dominance. Locke and the English Revolution of 1688, Rousseau and the French Revolution of 1789, and the Declaration of Independence and the American Revolution of 1776 are closely connected in this development.

Development of secular interests destroyed religious control of education. — This chapter begins the third part of the book, which will discuss the transition to a secular basis for elementary education. The first part defined elementary education and demonstrated that the Catholic Church maintained a practical monopoly of education during the Middle Ages, and that the only important elementary schools established during this period were in the commercial cities where they were organized in response to commercial needs.

The second part of the book described the development of schools on a religious basis and the character of the work done in such schools. Most elementary schools, except the writing and reckoning schools which continued in existence in the cities, were of this narrow religious type down to the beginning of the nineteenth century.

By this time other social forces of a secular character had developed sufficient strength to rival seriously the religious control of elementary schools, and by the middle of the nineteenth century systems of secular schools had been organized in many of the states of Europe and the United States. In this chapter we shall consider the development of some of the more important secularizing influences in social life.

Church dominated secular affairs before and after Reformation. — To appreciate the importance of this secularizing movement, the student must keep in mind the great control exerted by the Church for centuries over many secular matters. The Roman Catholic Church, for example, included in its theology and its control, not only such religious matters as believing in the divinity of Christ, but also such social matters as the divorce of kings and such scientific matters as the movements of heavenly bodies. The Church gave its sanction to such social arrangements and scientific statements as harmonized with its belief and placed all others under the ban as heretical. Nor did the Reformation divorce the Church, either Catholic or Protestant, completely

from the control of secular affairs, as we have seen in the case of the Protestant Church in Calvinistic Geneva and Puritan Massachusetts. The traditions which had become fixed during several centuries continued in force, and religious differences continued to be one of the most influential factors in European life.

"From the Reformation to the time of the Thirty Years' War (1618–1648) the discussion and settlement of religious dogmas had absorbed a wholly disproportionate share of the intellectual activity of Western Europe, where the toleration of religious opinion was even as a conception almost unknown." (**1**: 8.)

Independent secular interests which overthrew ecclesiastical despotism. — Prominent among the secular forces and tendencies which were gradually developing sufficient strength to overthrow this ecclesiastical despotism of thought and life were the following: (1) improved methods and new discoveries in natural science; (2) the spirit of religious toleration; (3) the development of strong centralized paternal governments; and (4) the development of democracy, which furnished a new nonreligious basis for universal education. We will take up these four factors in turn for detailed consideration.

The first of these new forces to rival the dominant ecclesiastical control was natural science. Until the end of the eighteenth century the influence of science was primarily in the field of theory; by the middle of the nineteenth century its application to industry had completely revolutionized practical life and was winning a place for it even in elementary schools.

Secularizing influence of modern science. *Greek science accepted as final in Middle Ages.* — The universities of the Middle Ages, sanctioned by the Church, found the philosophical works of the Greek philosopher Aristotle (B.C. 384–322) very valuable for maintaining the truth of the orthodox

theology of the Church. In fact these works were sometimes considered as infallible and universal a guide as the Bible or the commentaries of the Church fathers. Aristotle, the greatest thinker the world has known, had investigated and discussed not only metaphysics, ethics, psychology, politics, and rhetoric, but also natural science, including physics, astronomy, meteorology, physiology, and natural history. The universities assigned the same authority to his scientific writings that they did to his philosophical works; hence what Aristotle said about natural phenomena was almost the beginning and end of science. Although Aristotle himself had been a careful investigator of things, his followers in Western Europe were content to read and discuss what he discovered, instead of examining and experimenting to test or further his results. They even asserted that Aristotle was correct when new investigations or experiments indicated that he was wrong.

The chief practical interest in science was in the field of medicine. Here again a Greek, the physician and writer Galen (130–201 A.D.), reigned supreme. His works on anatomy and physiology, dietetics, hygiene, diagnosis, pharmacy, and surgery were the standard guides of medical practice in the sixteenth century.

In astronomy the "Mechanism of the Heavens," written by Ptolemy, an Alexandrian astronomer, about 138 A.D., was the standard authority. It was based on the theory that the earth was the center of the universe, and around it revolved the moon, Mercury, Venus, the sun, Mars, Jupiter, and Saturn.

These three Greek scientists — Aristotle, Galen, and Ptolemy — were the absolute authorities in sixteenth-century science, and any one who dared to dispute their statements was liable to ridicule, imprisonment, or death.

Seventeenth-century investigations discredited Greek scientific theories. — In the seventeenth century the principle that

scientific theories should be based on actual observations and experiments instead of the statements of ancient writers gained considerable headway and resulted in many new discoveries. Much of this development was in the field of astronomy and physics, which were greatly aided by new systems of mathematics. The following are examples of the developments in mathematics: Napier (1550–1617) published his work on logarithms in 1614; decimal notation was used by Briggs (1561–1631) in 1617; modern symbolic algebra took form about 1600; analytical geometry was expounded by Descartes (1596–1650) in 1637; infinitesimal calculus was used by Newton (1642–1727) before 1666 and described by Leibnitz (1646–1716) in 1684. To most students these phases of mathematics and the scientists who discovered them are but names, but it is important to appreciate that modern astronomy and physics were greatly aided by the improved mathematical tools which the ancient and medieval world did not possess. Many of the geniuses of astronomy and physics were also mathematical geniuses.

The overthrow of the Ptolemaic astronomy was an important factor in discrediting the ecclesiastical despotism of thought. Copernicus (1473–1543) showed that the observed movements of the heavenly bodies could best be explained by the hypothesis that the earth and the other planets moved around the sun. Kepler (1571–1630) offered proof of this hypothesis and explained the motion of the planets by three simple mathematical laws. Galileo (1564–1642), about 1611, constructed a telescope which revealed new heavenly phenomena. The support given to the Copernican theory by these new observations of Galileo aroused the Church, and in 1616 the Inquisition declared that the theory that the sun is the center of the solar system was false and contrary to the Holy Scripture. The persecution of Galileo, however, attracted attention to him and made his theories generally known.

Similarly, in the realm of physics new discoveries discredited the orthodox Greek theories. Aristotle had maintained that the rate of motion of falling bodies was proportional to their weight. Galileo, in 1589, made experiments from the leaning tower of Pisa which showed that, save for the resistance of the air, all bodies fall at the same rate. The work of Torricelli (1608–1647) and Robert Boyle (1627–1691) with the barometer proved the ordinary theories concerning a vacuum to be untrue. They formulated the laws concerning the pressure of gases, which are now known by their names to even elementary students of physics.

Modern scientific method. *The inductive verification of hypotheses.* — In all this development, actual observation and experimentation with the use of the new mathematics played fundamental parts. There was another element, however, the element of hypothesis, which it is well to understand. The important part played by this element in modern scientific work is emphasized by Whewell in his "History of the Inductive Sciences" in connection with the work of Kepler noted above. He says:

> Advances in knowledge are not commonly made without the previous exercise of some boldness and license in guessing. The discovery of new truths requires, undoubtedly, minds careful and scrupulous in examining what is suggested; but it requires, no less, such as are quick and fertile in suggesting. What is Invention, except the talent of rapidly calling before us many possibilities, and selecting the appropriate one? It is true that when we have rejected all the inadmissible suppositions, they are quickly forgotten by most persons; and few think it necessary to dwell on these discarded hypotheses, and on the process by which they are condemned, as Kepler has done. . . . Discovery is not a "cautious" or "rigorous" process, in the sense of abstaining from such suppositions. . . . Kepler certainly was remarkable for the labor which he gave to such self-refutations. . . . His works are a very instructive exhibition of the mental process of discovery. But in this respect, I venture to believe, they exhibit to us the usual process (somewhat caricatured) of inventive minds; they rather exemplify the *rule* of genius than (as has generally been hitherto taught) the *exception*. (2: 291, Vol. I.)

Newton's inductive verification of hypothesis of universal gravitation. — The part played by the element of hypothesis in modern scientific method can be further illustrated in connection with the work of Sir Isaac Newton (1642–1727), professor of mathematics at Cambridge University in England and one of the chief founders of the modern inductive method. Newton is generally known for his formulation of the law of universal gravitation, the greatest scientific discovery made before the middle of the nineteenth century, according to Whewell. This law asserts that all bodies attract each other directly as their masses and inversely as the square of the distance between them. Newton knew that the action of gravity extended to the top of mountains, and he conjectured (guessed, or formed the hypothesis) that it extended even to the moon, that the moon was kept in its orbit by the attraction of the earth according to the definite mathematical relations expressed in the above law. To test this hypothesis, all he had to do was to compare the movements of the moon as actually observed by astronomers with its estimated behavior as calculated according to his hypothesis or law. He knew from actual astronomical observations and calculations that the moon was deflected from its tangent *thirteen feet a minute*. But according to his law or hypothesis, by the calculation which he made in 1666, if the moon were deflected by gravity it should be deflected *fifteen feet a minute*. So he decided that his hypothesis was not true because it did not agree with the

SIR ISAAC NEWTON

observed astronomical facts. In time, however, it was discovered that the magnitude of the radius of the earth which he had used in his calculations of 1666 was incorrect. In 1679, using the correct magnitude, he repeated his calculations of the deflection of the moon according to his law and found that the result agreed with the observed facts and consequently verified his hypothesis. The hypothesis was then extended to apply to all heavenly bodies. Newton was perhaps the greatest of the scientists who were contributing to the revolution in thought through the use of the method of inductive verification of hypotheses. His work was primarily in the field of mathematics, physics, and astronomy.

The inductive method in physiology; the circulation of the blood. — The biological sciences, that is, the sciences of living organisms, grew out of the study of medicine. Here again we see the overthrow of the accepted Greek teachings by the results of experimental observations. The work of the English physician Harvey (1578–1657) on the circulation of the blood, published in 1628, is an interesting example of this tendency. According to Galen, the Greek authority, the heart moved the blood in the body by suction, and the blood returned to the heart by the same channels by which it left; that is, there was no circulation according to Galen's theory. Before the work of Harvey the study of anatomy by actual dissection and vivisection had gained some headway and had revealed the existence of valves in the veins. This discovery showed that the blood could not flow back to the heart in the same channels by which it came from the heart. Harvey's early observations convinced him that the heart propelled rather than sucked the blood through the body. Led on by this and other observations, he decided that the blood discharged into the arteries must find its way somehow into the veins and so return to the right side of the heart — the idea "of motion in a circle, as it were." This hypothesis was supported by other observations, but Harvey did not succeed in

demonstrating the existence of the capillaries as the connecting link between the arteries and veins. This was first done by Malpighi about 1661 by the use of the compound microscope, which Harvey did not have to help him. Harvey's discovery met with considerable opposition from the orthodox followers of Galen, but it soon gained general acceptance.

These examples of scientific investigations by the method of inductive verification of hypotheses are but a few of the many advances made during the sixteenth and seventeenth centuries toward an emancipation of thought from the control of ecclesiastical and Greek dogma or authority.

Scientific discoveries influenced practical affairs very little. — These discoveries did not affect practical affairs to any considerable extent, however, as shown by Huxley in the following quotation:

> Descartes, Newton and Leibnitz had opened up new worlds to the mathematician, but the acquisitions of their genius enriched only man's ideal estate. Descartes had laid the foundations of rational cosmogony and of physiological psychology; Boyle had produced models of experimentation in various branches of physics and chemistry; Pascal and Torricelli had weighed the air; Malpighi . . . had done work of no less importance in the biological sciences; but weaving and spinning were carried on with the old appliances; nobody could travel faster by sea or by land than at any previous time in the world's history, and King George could send a message from London to York no faster than King John might have done. Metals were worked from their ores by immemorial rule of thumb. . . . The utmost skill of our mechanicians did not get beyond the production of a coarse watch. . . . The middle of the eighteenth century is illustrated by a host of great names in science,— English, French, German, and Italian,— especially in the fields of chemistry, geology, and biology; but this deepening and broadening of natural knowledge produced next to no immediate practical benefits. (3: 49.)

Not until natural science as applied science profoundly affected practical life did it find a place in elementary-school practice. Long before this, however, through certain popularizers, scientific results and the scientific spirit began to influence theories of life and education.

Francis Bacon popularized idea of observation and experimentation. — One of the greatest and most talented of these popular writers on science and scientific method was Francis Bacon (1561–1626), well known as a writer of English essays and as the victim of parliamentary anger in the reign of King James I. Bacon was born seventeen years after the death of Copernicus (1543) and was contemporary with Kepler (1571–1630) and Galileo (1564–1642). Very early in life he wrote:

FRANCIS BACON

> I have as vast contemplative ends as I have moderate civil ends; for I have taken all knowledge to be my province; and if I could purge it of two sorts of rovers, whereof the one with frivolous disputations, confutations, and verbosities, the other with blind experiments and auricular traditions and impostures hath committed so many spoils, I hope I should bring in industrious observations, grounded conclusions, and profitable inventions and discoveries; the best state of that province. (5: 16.)

Bacon opposed the reliance upon the statements of Greek scientists as the sole source of scientific fact and emphasized the necessity of systematic observation and experimentation. In his two works, "The Advancement of Learning" (1605) and the "Novum Organum" (1620), he criticized the traditional methods and suggested a "new method" by which scientific discoveries were to be made that would revolutionize practical affairs. This is the meaning of his phrase "knowledge is power"; he expected by a study of nature's forces to learn to control them for human ends.

Bacon's method not that of modern science. — But Bacon was not a scientist and had little understanding of scientific method. He did not appreciate the method actually used by

scientists like Newton — the method by which an hypothesis made by a trained investigator to explain certain facts or to solve a problem is tested and verified by comparison with other facts. He believed that scientific progress would be made by assembling materials or observations as in a museum or card catalogue, and then proceeding mechanically according to certain rules by which any ordinary-minded person could make the true induction or generalization. Bacon himself made no contribution to scientific results, and it is doubtful whether any one ever has done so by his method. Huxley says:

> No delusion is greater than the notion that method and industry can make up for lack of mother-wit, either in science or in practical life; and it is strange that, with his knowledge of mankind, Bacon should have dreamed that his, or any other, "via inveniendi scientias" would "level man's wits" and leave little scope for that inborn capacity which is called genius. As a matter of fact, Bacon's "via" has proved hopelessly impracticable; while the "anticipation of nature" by the invention of hypotheses based on incomplete inductions, which he especially condemns, has proved itself to be the most efficient, indeed an indispensable, instrument of scientific progress. (3: 46.)

Bacon rejected the theory of Copernicus as absurd, and spoke of him as "a man who thinks nothing of introducing fictions of any kind into nature, provided his calculations turn out well." In the same way he criticized Gilbert's work on magnetism about which he was not competent to speak Mathematical methods which have been the basis of modern astronomy and physics he considered useless.

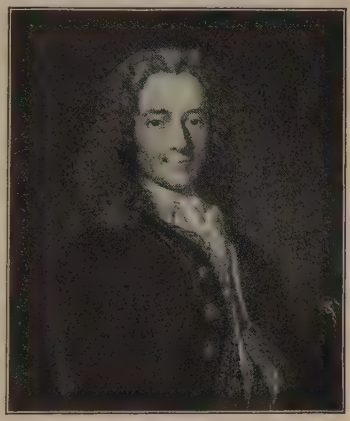
But though Bacon failed to understand or appreciate the sciences of his own time and exerted little or no influence on the actual progress of science, nevertheless his discussions were influential among philosophers and literary men. To these he presented, in an attractive form, the idea that actual contact with and study of natural phenomena is of more value in social life than exclusive reliance upon words, books, and the authority of tradition.

Locke made psychology a phase of natural science.— Another influence tending to popularize the method of first-hand experience, observation, and actual experiment in scientific study was the work of the English philosopher John Locke (1632–1704), a contemporary and friend of Newton and Boyle. We shall have occasion later to note his influence on religious toleration, democracy, and education. Locke is sometimes called the father of empirical psychology, meaning that he was the first to apply the methods of actual observation to the study of the mind itself; to study actual experience in order to understand it; to use the method of introspection, that is, the examination of one's own mind or consciousness, and the comparative method, that is, the observation of the behavior of savages and children and other conscious beings. Thus in place of the psychology based on Plato and Aristotle, Locke created the modern scientific psychology of actual experience, which has developed into the experimental psychology and child study of to-day. Moreover, in his study of experience Locke's main purpose was to determine how people acquire their ideas, opinions, and attitudes. In his conclusion he decided that all of an individual's knowledge is derived by reflection from experience, that the elements of his most complicated thinking are sensations which he experiences as a result of actual contact with physical forces or stimuli. Thus Locke's philosophy was "preëminently a philosophy of experience, both in its method and its results. It accepts nothing on authority, no foregone conclusions. . . . It digs, as it were, into the mind, detaches the ore, analyzes it and asks how the various constituents came there." (**6**: 150.)

Thus Locke contributed very definitely to the development of natural science in its relation to education: first, by making psychology a phase of natural science; and second, by emphasizing sense experience, that is, direct contact with natural phenomena as the source of the individual's ideas.

In the preceding discussion of science the large part played by Englishmen has been evident. Newton, Harvey, Gilbert, Boyle, Bacon, and Locke are among the greatest names in the history of scientific investigation and discussion. But English science had little direct influence on English education. It was English science as transplanted to France that profoundly influenced theories of life and education and finally found a place in Swiss and German elementary education.

English science popularized in France by Voltaire.—The popularizing of the English scientific spirit and scientific results in France was largely the work of Voltaire (1694–1778), in whom the conflict between ecclesiastical dogma and the scientific spirit of inquiry was centralized in the eighteenth century. So strong was the hatred of Voltaire by the orthodox ecclesiastics, and so vigorous was their condemnation of him as an atheist, that this has become the one phase of his character which has been impressed upon the popular mind and is recorded in the ordinary histories. But he was not an atheist, although strongly opposed to the superstitious and dogmatic religious life of his period. He was not a Christian, but he admired the simple Christianity of the English Quakers. His religious belief was deism, and he used Newton's physics as an important tool in demonstrating the existence of God, in which he believed. For our present purpose it is most profitable to think of Voltaire as popularizing in France, and on the continent generally, English scientific thought and applying its spirit and results in criticism of French social life.



VOLTAIRE

Before his visit to England in 1726 he had been trained as a lawyer; had lived in touch with the refined and depraved French society; had been imprisoned for supposed authorship of verses criticizing the government; had made a reputation as a dramatist; had moved from place to place to avoid official persecution; and was finally imprisoned in 1725 for a conflict with a member of the nobility, but was released and ordered to leave Paris. Following the custom common among Frenchmen at that time, he went to England and lived there for over two years. During this time he made a careful study of English thought and literature. The superior development and greater freedom of the English people in political, religious, and scientific life he described in "Letters concerning the English," published in English and French between 1730 and 1733. The criticisms of French life, implied or stated, resulted in the letters being immediately condemned and burned by the French authorities.

Voltaire considered Newton and Locke the greatest of geniuses. — These letters contained an exposition of the theories of Locke and Newton, and a later work was entitled "The Elements of the Philosophy of Newton." Being the leading and most able writer of the period (Morley says "the most trenchant writer in the world"), his clear and simple presentation of English scientific thought soon made it the popular philosophy of France.

Voltaire expressed his high estimate of Newton and Locke many times. He wrote:

> Not long ago a distinguished company were discussing the trite and frivolous question, who was the greatest man, Cæsar, Alexander, Tamerlane or Cromwell. Somebody answered that it was undoubtedly Isaac Newton. This person was right. . . . It is to him who masters our mind by the force of truth, not to those who enslave men by violence; it is to him who understands the universe, not to those that disfigure it, that we owe our reverence. (7: 72.)

Concerning Locke he wrote: "After all, we must admit that anybody who has read Locke, or rather who is his own Locke, must find the Platos mere fine talkers, and nothing more." (7: 168.)

Like Francis Bacon, Voltaire had no scientific talent and made no scientific discoveries, although he did considerable laboratory work. He differed from Bacon in placing a small value on his own scientific work, while appreciating at their true worth the scientific methods and achievements of his contemporaries.

French Encyclopedia spread the scientific spirit. — An important phase of the development of the scientific spirit in France was the famous Encyclopedia published under the editorship of Diderot (1713–1784), to which Voltaire, Rousseau, and most of the other great thinkers of the period contributed. Begun in 1745 as a translation of Chambers's English Cyclopedia, its scope was later enlarged by Diderot. The first volume, which was published in 1751, was suppressed as injurious to the king's authority and to religion. Alternate persecution and favor followed the succeeding volumes until the complete work, seventeen volumes of text and eleven of plates, was published in 1765.

> This enterprise, the history of which is a microcosm of the whole battle between the two sides in France, enabled the various opponents of theological absolutism, the Voltaireans, the Rousseauites, atheists, and all other sorts and conditions of protesting men, to confront the church and its doctrine with a similar semblance of organic unity and completeness. The Encyclopedia was not simply negative and critical. It was an unexampled manual of information, and was the means of spreading over the country some knowledge of that active scientific culture, which was producing such abundant and astonishing discoveries. (7: 355.)

Leaving the discussion of the influence of scientific discovery in overthrowing the ecclesiastical dominance of life and thought, we will take up the second influential factor, namely, religious toleration.

Religious toleration opposed to ecclesiastical despotism.— The growth of religious toleration among Christian sects was a sign that secular interests were gaining a place, that statesmen were beginning to appreciate the fact that religious wars were one of the surest ways of weakening and impoverishing a nation. From the time of the Reformation to the Thirty Years' War (1618–1648) "the toleration of religious opinion was even as a conception almost unknown." Down to the beginning of the eighteenth century the idea of toleration had little place in the minds of the clergy or ordinary people, and they were seldom in sympathy with the liberty of worship occasionally granted by an enlightened monarch.

Religious toleration exceptional in France before Revolution.— In France such a monarch was Henry IV, who in the famous Edict of Nantes (1598) assured liberty of worship to the Huguenots. The same condition of toleration continued under his successor, Louis XIII. This continuance was due to the power of Richelieu, chief minister to the king (1624–1642). Richelieu was a cardinal in the Catholic Church, but he realized that the strength and prosperity of the French people were increased by religious toleration. Under the next king, Louis XIV (*r.* 1643–1715), however, the persecution of the Huguenots was reopened in 1666, and the Edict of Nantes revoked in 1685. The intolerant control by the Catholics continued in France practically to the French Revolution (1789).

Limited toleration in England after Revolution of 1688.— In England toleration was the rule of Elizabeth but not of most of her successors. Cromwell was broad-minded and generally favored toleration of every religious belief except Popery. This was not the general rule with Puritans, however, as was shown by their intolerant attitude in Massachusetts. When the English monarchy was restored under Charles II (*r.* 1660–1685), the Act of Uniformity of 1662 again required adherence to the Established Church, and dissenters (Presbyterians,

Congregationalists, and Baptists) were punished. The Revolution of 1688, however, which deposed the Catholic king James II (*r.* 1685–1688) and brought as rulers William and Mary from Holland, also brought freedom of worship to most dissenters. Catholics, however, remained under severe restrictions for over a century. Moreover, the English people continued to be actuated by acute sectarian jealousies even to the present time, and these jealousies seriously interfered with the development of secular public schools. The most famous expression of the broader spirit of religious toleration in England was John Locke's "Letters on Toleration," written while exiled from England. They were published in Latin in 1689 and were almost immediately translated into Dutch, French, and English. Locke thought the English Act of Toleration too restrictive.

Prussia furnishes best example of toleration.— It was in Prussia that the most liberal provision for religious toleration prevailed, but the discussion of the Prussian situation can be taken up to advantage in connection with the third factor in overthrowing ecclesiastical despotism, to which we will now turn our attention.

Development of strong centralized governments to rival ecclesiastical control.— The growth of peoples into strong, prosperous, unified nations directed by an intelligent, patriotic enthusiasm for the welfare of the nation or state as such was an important factor in developing a rival for the purely ecclesiastical basis of life and education. England was one of the first to develop such national force; but, strange to say, it was among the last to modify education accordingly. Under Elizabeth, and after the Revolution of 1688, there existed a relatively strong, unified, prosperous people, but the English theory that the responsibility of providing for education rested upon the home and the Church, and the continued existence of sectarian jealousy, prevented the establishment of a national system of schools before the middle of the nineteenth century.

France attained to national unity, prosperity, and power under Richelieu and Louis XIV. The power of the nobles had been destroyed, and the king was absolute in control of the most prosperous, cultured, and brilliant people of Europe. The minister Colbert sought to stimulate national industry by standardizing productions and urging municipalities, guilds, and even religious organizations to improve their methods of manufacturing. He constructed canals that were marvels of engineering skill and built roads that rivaled those of the Romans. But Louis's ambitions led him to engage in foreign wars (1688–1713), which in the end, together with the expenses of his court, almost completely impoverished the nation. He destroyed the local liberty of the cities and set up in them mayors and subordinates who bought their places from him. As stated in the previous section, he was intolerant in religious matters, and the real welfare of his people had little place in his plans or those of his successors.

Rise of Prussia a strong secularizing force.— Prussia was the first country in which the plans for national improvement and development consistently included the industrial and educational development of the people as the essential factor. The secularizing of education which resulted was expressed in the Allgemeine Landrecht (General Code of Laws) of 1794, which, in opposition to the ecclesiastical position, definitely asserted that:

> Schools and universities are state institutions, charged with the instruction of youth in useful information and scientific knowledge. Such institutions may be founded only with the knowledge and consent of the state. All public schools and educational institutions are under the supervision of the state, and are at all times subject to its examination and inspection.

In Prussia we find a powerful, benevolent monarchy, keenly alive to the welfare of all the people, tolerant of all religious beliefs, and in sympathetic touch with the Newtonian scientific movement. Such a combination resulted in the first modern

secular state school system among the larger European states, which served as an object lesson for other countries during the nineteenth century.

Benevolent despotic Prussian kings developed national strength and resources. — The rise of Prussia was due to the strong common sense and steady endurance of the House of Hohenzollern, of which the present King William, emperor of Germany, is a descendant. During the eighteenth century the two kings, Frederick William I (*r.* 1713–1740) and Frederick II (the Great) (*r.* 1740–1786), by their military genius and by their development of the national resources maintained Prussia against the other powers of Europe. Even though the country was several times impoverished by war, the king succeeded in reviving its energy and prosperity by public works and by invitations to foreign immigrants to settle depopulated regions. Frederick William I built up his wonderful army of eighty thousand men, thoroughly disciplined and trained by officers who were appointed entirely on merit. He also established the efficient centralized system of government civil service which assured competent administration. Frederick the Great, on ascending the throne, announced that his mission was "to further the country's well-being, and to make every one of our subjects happy." He abolished legal torture in criminal trials, arranged for more equitable administration of the laws, drained the swamps along the Oder and founded several villages upon the drained lands, promoted internal traffic by canals, and fostered home industries, especially the manufacture of woolen and linen cloths. In all the measures taken for national development, the Prussian kings acted as benevolent despots. They were as despotic as Louis XIV of France, but they pursued a wise domestic policy, making internal development of the state a chief consideration; whereas the domestic policy of Louis, with the exception of the economic enterprises of his minister Colbert, was generally ill conceived, resulting in internal strife, religious persecution, and national decay.

Prussia tolerant of all religions.— The policy of religious toleration pursued by the Prussian kings was the second important factor in assuring internal strength, as it had been under Richelieu in France. Even as early as 1660, although primarily Lutheran, Prussia tolerated Arians, Socinians, Mennonites, Jews, and Catholics. Following the persecution of the Huguenots in France and the revocation of the Edict of Nantes in 1685, over twenty thousand French refugees —nobles, merchants, manufacturers, and skilled workmen— found refuge in Prussia. Frederick the Great said, "All religions must be tolerated, for in this country every man must go to heaven in his own way." He permitted the same liberty in speaking and writing, saying that his subjects might think as they pleased as long as they behaved as he ordered.

Frederick the Great cultivated Newtonian philosophy.— The third secular factor in the Prussian situation, namely, sympathetic appreciation of the Newtonian scientific spirit, is evidenced in the attachment of Voltaire to the court of Frederick the Great for almost three years, beginning in 1750. Although the Prussian people were relatively medieval in their culture as compared with the English or French, the king was thoroughly in sympathy with modern science and literature. In 1740 he invited the French mathematician and astronomer, Maupertuis, to come to Prussia and "insert into this wild crab tree the graft of the sciences, that it might bear fruit." Maupertuis stimulated the revival of the Berlin Royal Academy of Sciences, which had been opened in 1711.

Thus we find in Prussia under Frederick the Great such a combination of strong secular interests as existed in no other country— the scientific spirit, naturally connected with religious toleration, under a benevolent despot with a genius for administration and an intelligent interest in the welfare of all classes, especially the poor. It was natural that such a ruler

should include the development of a national secular school system as a part of the general social reform. The development of the support of "people's schools" (Volksschulen) and the secularization of the whole Prussian school system will be considered in a later chapter.

Prussia's achievements stimulated the revival of German literature. — Another feature of the secular development in Germany, intimately connected with the rise of Prussia, was the development of the national German literature. In an earlier chapter it was noted that the exclusive use of Latin and French by the educated and courtly classes in Germany had seriously impeded the development of the German language and literature. Frederick the Great was himself thoroughly enamored of French life and style and ridiculed the German literature. But indirectly his military and administrative achievements served as a stimulus for the arousal of German patriotic feeling, which found expression in the literature of the later eighteenth century. As Goethe said, "The first true and really vital content of a high order came into German poetry through Frederick the Great and the deeds of the Seven Years' War (1756–1763)."

For the first time since Luther, the German people could call a great hero their own, whether they were subjects of Frederick or not. Their hero had vanquished the French and Russians, and held out victorious against tremendous odds; his fame had reached the most distant nations, and it had raised the despised name of Germany again in honor. Even the most bitter enemies of Frederick acknowledged this; and many were devoted admirers of him, even when they were jealous of the growth of Prussia. Joyous pride in this prince, whose achievements in times of peace were no less great than those in time of war, brought national consciousness to life again and this national feeling found expression in literature. It is not only that works by Gleim, Kleist, Lessing, and others received their initial impulse from the deeds of the king. It was the restoration of confidence in themselves that gave Germans the courage to break with French rules and French models, and to seek independently after ideals of beauty. And this self-confidence they owed to Frederick the Great. (**12**: 116.)

We shall now turn from the discussion of centralized governments as rivals to ecclesiastical control to a consideration of the fourth factor, namely, democracy.

Democracy furnished a nonreligious basis for universal education. — The growth of political democracy was another important factor in undermining the ecclesiastical control of life and education. It also furnished a new basis for universal education. The developments in democratic government which we shall consider began in England and found expression in the American and French Revolutions.

English Revolution of 1688 justified by John Locke. — The increasing part played in the English government by Parliament representing the people is familiar to students of English and American history. As long as the theory of the divine right of kings prevailed, however, and it was possible for the king to consider himself above the law, and capable of ruling without Parliament, the existence of democratic control was in danger. The English Revolution of 1688 removed this danger in England, for Parliament thereby declared the throne vacant and invited William and Mary to rule, thus establishing the principle that the king was the representative of the people and not king by divine right. The theoretical justification for such a revolution and the elaboration of the "social-contract" theory of government which it implied was formulated by John Locke in his "Treatises on Government," published in 1690. Locke wrote the second of these treatises "to establish the throne of our great restorer, our present King William, and to justify to the world the people of England, whose love of their just and natural rights saved the nation when it was on the very brink of slavery and ruin." Governments, Locke maintained, were established by the people for "the natural preservation of their lives, liberties, and estates, which I call by the general name property." A government which failed to secure these ends could be overthrown by the people and another substituted. Locke's views

as thus expressed became the dominant policy of the Whig or Liberal party, with such results that some authorities claim that the English government to-day is more democratic than the national government of the United States.

Rousseau the chief exponent of the French democratic Revolution. — In France, Locke's theory of government was accepted and expounded by writers who were anxious for the destruction of the social abuses attendant upon the absolute monarchy and feudal customs which had caused so much suffering for the common people. Rousseau (1712–1778) was the chief exponent of this French democratic tendency and was a very important factor in causing the French Revolution. One incident in Rousseau's career will serve to represent the condition of oppression of the common people and his own reaction. When about nineteen years old (1731), while tramping through France, he lost his way as he was exploring a particularly beautiful bit of scenery and, after wandering for hours, came to the cottage of a peasant whom he implored for food. The man gave him some coarse barley bread and skimmed milk, claiming it was all he had. As he ate, however, said Rousseau:

> The peasant, who examined me closely, judged of the truth of my story by that of my appetite. All of a sudden, after remarking that he saw clearly enough that I was a good honest young man, who had not come there to betray him, he opened a little trap door, near his kitchen, descended, and reappeared the next moment, with a brown loaf of fine wheat, a ham and a bottle of wine, the sight of which gladdened my heart more than all the rest; to this he added a thick omelette; and I made such a dinner as no pedestrian ever before sat down to. . . . [The peasant] gave me to understand that he hid his wine on account of the duties, and his bread on account of the tax; and that he would be a lost man if he did not lead people to suppose that he was dying of hunger. All that he told me about this subject — of which previously I had not the slightest idea — made an impression upon me which will never be effaced. There was the germ of the inextinguishable hatred which developed later in my heart against the vexations endured by the poor, and against their oppressors. (**16**: 29.)

Rousseau expressed Locke's political theories in popular form. — Rousseau's democratic reaction was most vigorously expressed in two essays published in 1750 and 1754, but his most important political treatise was the "Social Contract" (1762), which became the political handbook of the French revolutionists, or, even as Lecky says, "the Bible of their creed." This work contained little that was original.

Rousseau's chief source was Locke's second Treatise on Government, and, in his Letters from the Mountain, he frankly admitted that he had treated the same subjects on exactly the same principles as Locke. . . . [But] Rousseau universalized and popularized Locke's teachings. . . . By his matchless style he inspired with new life and vigor the doctrine of popular sovereignty, and he thoroughly assimilated the social-contract theory. Expressing Locke's cumbrous propositions with brevity, clearness and point, he gave them a ready portability. (17 : 36.)

Said political equality should replace natural inequality. — A single quotation may serve to express Rousseau's fundamental idea of equality as set forth in the "Social Contract" (Book I, chap. ix).

I shall close this chapter and this book with a remark which ought to serve as a basis for the whole social system; it is that instead of destroying natural equality, the fundamental pact, on the contrary, substitutes a moral and lawful equality for the physical inequality which nature imposed upon men, so that, *although unequal in strength or intellect, they all become equal by convention and legal right.*[1]

Spirit of American Revolution similar to English and French. — One of the most concise statements of the democratic and social-contract theory of government is contained in the American Declaration of Independence (1776), which reiterated the ideas of Locke and Rousseau.

We hold these truths to be self-evident: That all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness. That, to secure these rights, governments are instituted among men,

[1] Italics not in original.

deriving their just powers from the consent of the governed; that, whenever any form of government becomes destructive of these ends, it is the right of the people to alter or abolish it and to institute a new government. . . .

The relation of democracy to education as furnishing a new basis for universal education in place of the Reformation religious basis was clearly expressed by Thomas Jefferson. He said:

There are two subjects, indeed, which I claim a right to further as long as I breathe, the public education and the subdivision of counties into wards. I consider the continuance of republican government as absolutely hanging on these two hooks.

James Madison (1751–1836), the fourth president, said:

A popular government without popular information or the means of acquiring it, is but a prologue to a farce or a tragedy, or perhaps both. . . . The best service that can be rendered to a country next to giving it liberty, is in diffusing the mental improvement equally essential to the preservation and enjoyment of that blessing. (18: 714.)

Secularization of education followed other secular developments. — This will conclude our discussion of the development of secular interests which eventually overthrew the dominant religious conception of life and the reign of ecclesiastical despotism. Scientific discoveries destroyed the intellectual basis of this despotism. Religious toleration, being necessary for national prosperity, gradually won its way. Strong centralized governments became active rivals and opponents of the ecclesiastical power. And finally democracy, with its destruction of the theory of the divine right of kings and all other forms of despotism, completed the reform.

The secularization of educational theory and practice paralleled and followed the development of these other secular social interests. Some of the earlier steps in the theoretical development will be discussed in the next chapter, and the practical secularization of the schools of Prussia, England, and the United States in three later chapters.

BIBLIOGRAPHICAL NOTES

Concerning the development of modern science. — 1. Cambridge Modern History, Vol. V, *The Age of Louis XIV.* (The Macmillan Company, 1908.) Chap. xxiii. A very good summary.

2. Whewell, W. *History of the Inductive Sciences.* (D. Appleton and Company, second edition, 1901.) The standard complete work.

3. Huxley, T. H. *Methods and Results.* (D. Appleton and Company, 1894.) Chap. ii is entitled Progress of Science.

4. Draper, J. W. *Intellectual Development of Europe.* (Harper & Brothers, revised edition, 1875.) Vol. II, chap. viii.

5. Church, R. W. *Bacon.* (English Men of Letters Series, Harper & Brothers, 1884.) Particularly chap. viii on Bacon's philosophy.

6. Fowler, T. *John Locke.* (English Men of Letters Series, Harper & Brothers, 1880.) Especially chaps. viii, ix, and x.

7. Morley, J. *Voltaire.* (The Macmillan Company, 1886.) Particularly chap. ii, entitled English Influences.

Concerning religious toleration. — 8. Cambridge Modern History. Same as 1 above. Preface and chap. xi on Toleration in England.

9. International Encyclopædia under Liberty, Religious.

Concerning the development of Prussia. — 10. Schwill, F. *History of Modern Europe.* (Charles Scribner's Sons, 1905.) Pp. 230–248.

11. Paulsen, F. *German Education.* (Charles Scribner's Sons, 1908.)

12. Priest, G. M. *History of German Literature.* (Charles Scribner's Sons, 1909.)

Concerning democracy. — 13. Same as 1 above. Chap. x on English Revolution.

14. Fowler, T. *John Locke.* See 6 above.

15. Morley, J. *Rousseau.* 2 vols. (The Macmillan Company, 1886.) See particularly Vol. II, chap. iii, on the Social Contract.

16. Hudson, W. H. *Rousseau and Naturalism in Thought and Life.* (Charles Scribner's Sons, 1903.) See chapters on Rousseau's political theories.

17. Tozer, H. *Rousseau's Social Contract.* (Charles Scribner's Sons, 1902.)

18. Monroe, P. *Textbook on the History of Education.* (The Macmillan Company, 1905.)

CHAPTER VII

TRANSITION TO SECULAR POINT OF VIEW IN EDUCATIONAL THEORY: COMENIUS AND LOCKE

Main points of the chapter. — 1. During the seventeenth century secular interests occasionally influenced the prevailing religious conceptions of elementary education.

2. Comenius, in the first half of the century, incorporated secular factors as part of his religious point of view, while Locke at the end of the century included religion as one element in a thoroughly secularized definition of education.

3. Three interests, namely, in religion, in the encyclopedic organization of all knowledge, and in the improvement of education, played almost equally influential parts in the life of Comenius.

4. The Latin textbooks of Comenius were famous for centuries, but he exerted little influence on the methods of elementary education.

5. Locke, who ranks with Newton as one of the greatest thinkers of his century, greatly influenced German pedagogy, directly through his own writings, and indirectly through the restatement of his theories by Rousseau.

6. Basedow (1723–1790) and his associates (influential German educational reformers of the eighteenth century) derived from Locke and Rousseau their emphasis on physical training and on the use of games to make instruction pleasant for children.

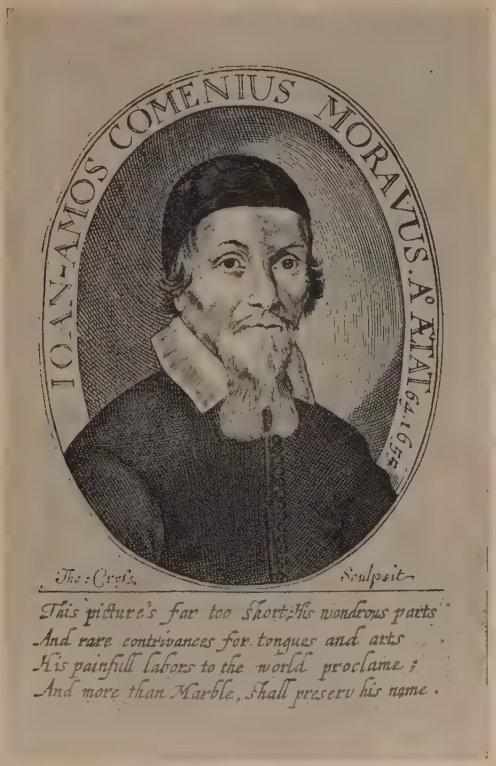
Secular view of elementary education occasional in the seventeenth century. — The secular interests described in the previous chapter, which eventually overthrew the dominant religious conception and control of life, did not produce such a revolution in elementary education until the nineteenth century. In fact there was no very strong tendency to adopt a purely secular point of view in elementary education until the appearance, in 1762, of Rousseau's epoch-making book on education entitled "Émile." Nevertheless, as early as

1600, there were occasional instances of a broadening of the conception of elementary education so as to include, in addition to the religious element, some study of secular matters. By the year 1700, famous theoretical discussions of education had been published which were conceived primarily in the secular spirit, with the religious element as but one factor. Comenius (1592–1670) is the most famous representative of the early tendency to give secular interests some place, and Locke (1632–1704) is the most important representative of the thoroughly secularized point of view. Neither of these affected elementary-school practice directly to any considerable extent, but they are important as leading representatives of a movement which was gradually gathering force and preparing the way for the revolutionary influence of Rousseau's "Émile."

Comenius — theory of universal, encyclopedic, vernacular education. *The greatness of Comenius generally acknowledged.* — Comenius is generally considered the greatest educational theorist and practical reformer of the seventeenth century. During his life he enjoyed international fame. His extensive theoretical writings are evidence of his profound educational insight, while his practical ability and his influence on contemporary secondary-school practice are attested by the wide adoption of his improved textbooks for teaching Latin. In his efforts at educational reform, especially in the teaching of languages, he was not alone. He himself mentions ten men, largely contemporaries, who were working on the same problems and whose books he studied with great interest; but he stands superior to all of these in the scope and fame of his work.

Comenius active during the period of the Thirty Years' War. — John Amos Comenius (1592–1670) was born in Moravia, at that time a part of the Austrian or Holy Roman Empire. Although his education was delayed, he enjoyed the advantage of training in some of the best German

universities, and was thoroughly prepared for his work as a Protestant minister. As such he was banished from his native country by the Catholic Austrians. He labored in various countries — Poland, England, Sweden, Germany,


IOAN-AMOS COMENIUS MORAVUS. Aº ÆTAT. 64. 1656
This picture's far too Short: his wondrous parts
And rare contrivances for tongues and arts
His painfull labors to the world proclame;
And more than Marble, shall preserv his name.

JOHN AMOS COMENIUS

Holland — during and following the subsequent troubled period of the Thirty Years' War between the Catholics and the Protestants (1618–1648). The period of greatest educational productivity in his life was the quarter century between 1628 and 1654. At the beginning of this period

he had begun his most important theoretical treatise, the "Great Didactic," and at the end he had completed his four years' experiment in organizing a model school in Hungary and had finished writing the "Orbis Pictus," the first important illustrated textbook for children. The declining years of his life were spent in Amsterdam.

Religion, encyclopedism, and education, three dominant interests. — In Comenius's life three prominent interests played almost equally important parts. These were interests in religion, in an encyclopedic organization of all knowledge, and in education.

Bishop of the Moravian church. — The Moravian or Bohemian Brethren were Protestants whose beliefs included elements derived from John Huss, the great Bohemian reformer, and from Luther. Their essential belief was in a simple religious life based directly on a study of the Bible, the precepts of which were followed literally to a considerable degree. In 1618 Comenius was placed in charge of one of the most flourishing of the churches of the Brethren. Ten years later the Brethren were banished from their native country. Some of them came to America eventually, settling in Pennsylvania. In 1632 Comenius was made bishop of the scattered Brethren and he continued to be one of their leaders throughout his life. He wrote a history of their persecutions and in many ways strove to better their condition.

Planned the encyclopedic organization of all knowledge. — The second great line of activity with Comenius was his endeavor to interest Europe in the organization of all knowledge in encyclopedic form, and in the organization of facilities for research to advance learning. In this endeavor he was primarily influenced by Professor Alsted of the University of Nassau, where Comenius spent two years (1611–1613), and by the writings of Francis Bacon. Alsted published in 1630 an "Encyclopedia of all the Sciences," which was one of the best known of similar works of that

time. Comenius corresponded with Alsted after leaving the university, and his views are similar to the latter's in many respects.

Concerning Bacon's "Instauratio Magna" Comenius said, "It is a wonderful work, which I consider the most instructive philosophical work of the century now beginning [the seventeenth]." But he did not find Bacon thoroughly satisfactory, saying, "Yet again I was troubled, because the noble Verulam [Bacon], while giving the true key to Nature, did not unlock her secrets, but only showed, by a few examples, how they should be unlocked, and left the rest to future observations to be extended through the centuries." Comenius shared with Bacon the enthusiasm for an actual observation of natural phenomena instead of relying on what Aristotle and other ancients had said. "For," said he, "do we not dwell in the garden of Nature as well as the ancients? Why should we not use our eyes, ears, and noses as well as they? And why should we need other teachers than these our senses to learn to know the works of Nature?" (**3**: 37.)

Comenius an enthusiastic but mistaken amateur scientist.— This interest in a study of natural science found expression in a work on physics and one on astronomy written by Comenius about 1632–1633. As scientific works these writings are much more amateurish even than the works of Francis Bacon, who, as we have noted, was not a scientist at all, but a popular writer about scientific methods that he did not understand.

The type of pseudoscientific work which Comenius carried on is thus described by Keatinge:

> For the production of works of this kind the curious conflict of ideas at the close of the century [about 1600] was responsible. The spirit of free inquiry introduced by the reformed religion had to a large extent overthrown the authority of Aristotle, but the Christian philosophers of the period merely substituted the Bible for the Aristotelian

physics, based their theories on arguments drawn from the Mosaic account of the Creation, and, while they were half awake to the value of experimentation, had but little dealing with it in the actual development of their hypotheses. (1 : 126.)

No practical scientific results from his pansophic plans. — Comenius was not satisfied with merely writing on physics and astronomy, but planned a complete encyclopedia. This he described in a short manuscript entitled "Outline of my Work on Universal Wisdom," which he sent to an English friend about 1637. This brief plan was published and gained for Comenius considerable notoriety. As a consequence he was invited to England (1641) where his friends hoped to place him in charge of a university of research which was to be endowed by Parliament. The endowment did not materialize, however, owing to political difficulties which occupied the attention of Parliament. Although no practical development of any consequence resulted from the encyclopedic or pansophic ambitions of Comenius, they had a very definite bearing on his educational works, which we will now take up.

Educational aims based on Scripture included encyclopedic knowledge of things.— In the educational views of Comenius the two interests which have been described, namely, the religious and the encyclopedic, played important rôles. In harmony with the dominant practice of the day, education was conceived by Comenius largely in religious terms, but included as an important element the knowledge and mastery of natural forces. For the inclusion of this factor he found justification in the Bible. He said :

> It is evident, then, that the ultimate end of man is eternal happiness with God. The subordinate ends also at which we aim in this transitory life are evident from the words of the divine soliloquy which the Creator uttered when about to make man. "Let us make man," he said, "in our image, after our likeness ; and let him have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth" (Gen. i, 26).

From this it follows that man is naturally required to be: (1) acquainted with all things; (2) endowed with power over all things and over himself; (3) to refer himself and all things to God, the source of all. (1: chap. iv.)

Aim included complete development of man as a rational creature.—Thus we have combined on a scriptural basis the religious aim and the aim of encyclopedic knowledge of things. To these aims he added another, that of making all men rational creatures because they are created in the image of God. In introducing his argument for this position he said:

The following reason will establish that not the children of the rich or the powerful only, but of all alike, boys and girls, both noble and ignoble, rich and poor, in all cities and towns, villages and hamlets, should be sent to school.

Thus he established the necessity for a universal compulsory elementary education. The basis was still religious, but not the narrow one of mere ability to read the Bible, which had prevailed. It was the broader basis of the control of natural forces, and the development of man as a rational creature in the image of God.

Planned to organize education into four stages. — In his plan for the organization of schools Comenius divided education into four stages, each to consist of six years. These stages as he expressed them were:

I. For infancy	the		the mother's knee
II. For childhood	school		the vernacular school
III. For boyhood	should		the Latin school or gymnasium
IV. For youth	be		the university and travel

A thorough vernacular education for everybody. — The school of infancy, or mother school, and the vernacular school were to be attended not only by rich and poor alike, but even the talented and wealthy were to complete the vernacular school before entering the Latin school at the age of twelve. This recognition of the importance of thorough vernacular training for everybody was a radical departure

from the dominant practice of putting children who could afford it into the Latin school as soon as they could read, usually at the age of eight or nine, often at six or seven. Thus Comenius and a few contemporary reformers gave the vernacular school a distinctive importance which it had not been granted in Europe since the days of the Greeks and Romans. Needless to say, this important conception was not represented in actual practice until the nineteenth century, the elementary vernacular school being generally considered but a makeshift for the poor down to that time.

Vernacular school to include economics, science, and history. — Further illustration of the broader conception of these elementary stages of education is contained in the following quotation from Comenius.

> These different schools are not to deal with different subjects, but should treat the same subjects in different ways, giving instruction in all that can produce true men, true Christians, and true scholars, throughout graduating the instruction to the age of the pupil and the knowledge he already possesses.

Thus all kinds of experiences were to furnish material for instruction at all ages. In addition to the ordinary three R's and religious instruction, Comenius included:

> (1) As much economics and politics as is necessary to enable them [children] to understand what they see daily at home and in the State; (2) the general history of the world; (3) the important facts of cosmography — in particular, the cities, mountains, rivers, and other remarkable features of their own country; (4) the most important principles of the mechanical arts.

Examples of practical understanding of the principles of method. — These ideas concerning a broader elementary vernacular education, selected from the great mass of principles which Comenius advocated, show how advanced his theories were. Further evidence of this is contained in the following partial list of his principles, which the student may examine with profit, but should make no special effort to remember *in toto*:

1. Education should begin at infancy and should be adapted at each stage to the age and capacities of the child.

2. Studies should be carefully graduated and students graded, according to a regularly organized course of study showing the work for each day in the year.

3. A graduated series of textbooks and illustrative material should be provided as an absolutely necessary means for improvement in instruction.

4. Regular attendance should be insisted upon.

5. The best parts of the day should be used for instruction, and care should be taken to avoid fatigue.

6. Class instruction should be substituted for the prevailing individual instruction. The instructor should always address the whole class, each member profiting by the work of all the others.

7. To save time printed copy books should be used instead of copy slips written by the teacher. All copies of a given text should be of the same edition.

8. Reading and writing should be taught together, and other correlations made whenever profitable.

9. At first subjects should be presented orally by the teacher, and pictorially illustrated where possible.

10. Actual objects and things should be studied first, and language in connection with such study.

11. Only things whose practical value to the pupil is evident should be taught.

12. Examples should be studied before rules.

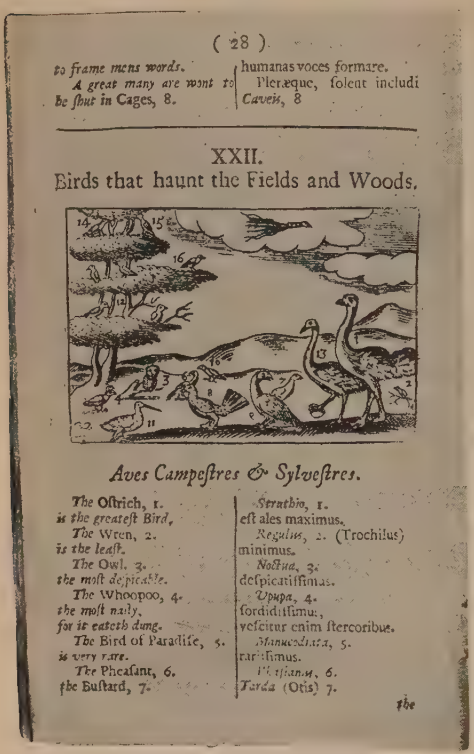
13. The minds of the pupils should be prepared for new subject matter.

14. Material should be memorized only after it is thoroughly understood.

15. Gentleness, persuasion, pleasantness, and interest should replace force and drudgery.

16. Corporal punishment should not be used for failure in learning.

The "Great Didactic," one of the greatest systematic treatises on education. — These theories were most completely presented by Comenius in a work entitled the "Great Didactic," which he wrote between 1628 and 1632 in Czech, his native language. It was not published, however, until 1649 (according to Keatinge), when it appeared in the vernacular in Prague. Later, in 1657, it was published in Latin in Amsterdam. The "Great Didactic" contained thirty-three chapters dealing thoroughly with all phases of education, from the most fundamental principles to the smallest details of class management. Some enthusiastic admirers of Comenius claim that it is the greatest of educational classics.



(28)

to frame mens words. humanas voces formare.
A great many are wont to Pleræque, solent includi
be ſhut in Cages, 8. *Caveis*, 8

XXII.

Birds that haunt the Fields and Woods.

Aves Campeſtres & Sylveſtres.

The Oſtrich, 1. *Strathio*, 1.
is the greateſt Bird, eſt ales maximus.
The Wren, 2. *Regulus*, 2. (Trochilus)
is the leaſt. minimus.
The Owl, 3. *Noctua*, 3.
the moſt deſpicable. deſpicatiſſimus.
The Whoopoo, 4. *Upupa*, 4.
the moſt naſty, ſordidiſſimus;
for it eateth dung. veſcitur enim ſtercoribus.
The Bird of Paradiſe, 5. *Manucodiata*, 5.
is very rare. rariſſimus.
The Pheaſant, 6. *Phaſianus*, 6.
the Buſtard, 7. *Tarda* (Otis) 7.

the

SPECIMEN PAGE FROM THE "ORBIS PICTUS" OF COMENIUS

Illustrates a lesson on a natural history topic

"Great Didactic" unimportant in its influence.—This estimate of the work of the "Great Didactic" is probably exaggerated, but whether it is true or not, certainly the book was relatively insignificant in its influence. During the period of Comenius's greatest popularity it was either

unprinted or existed only in a relatively obscure vernacular. The Latin version, published later, is seldom mentioned by subsequent pedagogical writers and was practically unknown until 1843, when von Raumer, the German historian of education, called attention to it.

Latin textbooks of Comenius famous for centuries. — Quite different from the fate of the "Great Didactic" was the fame of the textbooks which Comenius wrote for the improvement of the study of Latin. European educators were more interested in this problem of educational method than in any other, and Comenius was one among many writers of important texts. His "Janua Linguarum Reserata," published in 1633, achieved extraordinary success. It was translated into all the important European languages and was widely used for generations as an introductory text for the study of Latin. In the history of secondary education it deserves a more extended discussion than we can give it in this connection.

(62)

Grinding. XLIX. *Molitura.*

In a Mill, 1.
a ſtone, 2.
runneth upon a ſtone, 3.
A Wheel, 4.
turning them about,
and grindeth Corn poured in by
a Hopper, 5.
and parteth the Bran, 6.
falling into the Trough, 7.
from the Meal ſlipping through
a Bolter, 8.
Such a Mill was firſt
a Hand-mill, 9.
then a Horſe-mill, 10.
then a Water-mill, 11.
and a Ship-mill, 12.
and at laſt, a Wind-mill, 13.

In *Mola*, 1.
currit Lapis, 2.
ſuper lapidem, 3.
Rota, 4.
circumagente
& conterit per *Infundibulum*, 5. infuſa Grana,
ſeparatque *Furfurem*, 6.
decidentem in *Ciſtam*, 7.
à *Farina* (Polline)
elabente per *Excuſſorium*, 8.
Talis Mola primùm fuit
Manuaria, 9.
deinde *Jumentaria*, 10.
tum *Aquatica*, 11.
& *Navalis*, 12.
tandem, *Alata* (pneumatica) 13.

Bread-

SPECIMEN PAGE FROM THE "ORBIS PICTUS" OF COMENIUS

Illustrates a lesson on an industrial process

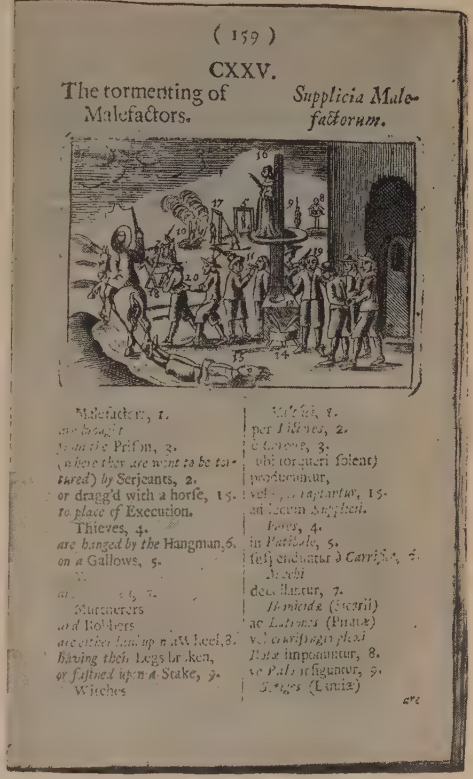
The "Orbis Pictus" employed pictures to study language and things. — More important in relation to elementary education, although originally it was only another Latin text, is the illustrated revised edition of the Janua, known as the "Orbis Pictus" (World in Pictures), published in 1658. The reproductions on pages 144 to 147 give a notion of its content. The "Orbis Pictus," like the Janua, provided not only a means of learning Latin but also an encyclopedic knowledge of things. The English title of the eleventh English-Latin edition (London, 1728) reads as follows:

Joh. Amos Comenius's
Visible World
or, a
Nomenclature, and Pictures
of all the
Chief Things that are in the World, and
of Men's Employments therein;
In above 150 Copper Cuts
Written
By the Author in Latin and High Dutch, being
one of his last Essays; and the most suitable to Children's Capacity of any he hath hitherto made.

There were approximately one hundred fifty pictures, each one serving as a topic of a lesson. These pictures represented God, The Heaven, The Air, Earth, Tree, Birds that haunt the Fields and Woods, Ravenous Birds, Man, The Seven Ages of Man, The Channels and Bones, The Making of Gardens, Bread Making, Brewing, The Potter, A School, Geometry, The Eclipse, Temperance, Liberality, A City, The Kingdom and Region, Religion, Christianity, The Last Judgment, and other similar topics.

"Orbis Pictus" also used as vernacular reading book. — Although intended as a text for learning Latin, the "Orbis Pictus" is important in relation to elementary education, because it was also usable as a means of learning to read the vernacular,

and was sometimes used for that purpose. Thus it set the model for later illustrated primers, etc. Moreover, the directions given by Comenius for the use of the "Orbis Pictus" apply in using it for vernacular reading. Thus he said:


(159)

CXXV.

The tormenting of Malefactors. *Supplicia Malefactorum.*

Malefactors, 1.
are brought
from the Prison, 3.
(where they are wont to be tortured) by Serjeants, 2.
or dragg'd with a horse, 15.
to place of Execution.
Thieves, 4.
are hanged by the Hangman, 6.
on a Gallows, 5.
[illegible]
[illegible] 7.
Murtherers
and Robbers
are either laid upon a Wheel, 8.
having their Legs broken,
or fastned upon a Stake, 9.
Witches

[illegible], 1.
per *Lictores*, 2.
è Carcere, 3.
ubi torqueri solent)
producuntur,
vel [illegible] *raptantur*, 15.
ad locum *Supplicii*.
Fures, 4.
in *Patibulo*, 5.
suspenduntur à *Carnifice*, 6.
Arcubi
decollantur, 7.
Homicidæ (Sicarii)
ac *Latrones* (Piratæ)
vel *curvifragio plexi*
Rotæ imponuntur, 8.
ve *Palo* infiguntur, 9.
Sortiges (Lamiæ)
are

SPECIMEN PAGE FROM THE "ORBIS PICTUS" OF COMENIUS

Illustrates a lesson on a social custom

I. Let it be given to children into their hands to delight themselves withal as they please, with the sight of the pictures, and making them as familiar to themselves as may be, and that even at home before they be put into school.

II. Then let them be examined ever and anon (especially now in school) what this thing or that thing is, and is called, so that they may see nothing which they know not how to name, and they can name nothing which they cannot shew.

III. And let the things named them be shewed, not only in the picture, but also in themselves; for example, the parts of the body, clothes, books, the house, utensils, etc.

IV. Let them be suffered also to imitate the Pictures by hand, if they will; nay rather, let them be encouraged that they may be willing: first, thus to quicken the attention also toward the things; and to observe the proportion of the parts one toward another, and lastly to practice the nimbleness of the hand, which is good for many things.

V. . . . things rare and not easy to be met withal at home might be kept ready in every great school, that they may be shewed also, as often as any words are to be made of them, to the scholars.

Thus at last this school would indeed become a school of things obvious to the senses, and an entrance to the school intellectual. (**2**: Preface.)

The "Orbis Pictus" was even more universally used than the Janua and was probably the most popular Latin textbook for many years, editions of it being issued even as late as the nineteenth century.

Comenius had little immediate influence in reforming elementary education. — The following statement of the influence of Comenius, coupled with the exaggerated opinion of his theoretical importance, may be taken as a fair estimate of his relation to subsequent educational development.

The man whom we unhesitatingly affirm to be the broadest minded, the most far-seeing, the most comprehensive and withal the most practical of all the writers who have put pen to paper on the subject of education, the man whose theories [though not derived from him] have been put into practice in every school that is conducted on rational principles. . . . Comenius, we say, the prince of schoolmasters, produced practically no effect on the school organization and educational development of the following century. His school books, frequently reprinted, were thumbed for years to come by boys in every corner of Europe; but the theoretic works, "The Great Didactic," "The Newest Method of Languages," "The Mother School," remained unknown and ineffective. For all the result that they produced, they might as well have perished in the flames of Lissa. (**1**: 198.)

Occasional instances of reforms of vernacular schools on Comenian principles. — Although the principles of Comenius found little embodiment in actual practice, there were a few notable instances of practical reforms in elementary vernacular schools which provided for the broader curriculum and the compulsory attendance which he advocated. In these instances the impulse was probably not derived from Comenius, for one case (Weimar, 1619) antedated his publications by several years. In later instances there is evidence of some knowledge

of Comenius, but a more prominent influence was that of Ratke (1571–1635), a contemporary but older reformer of less general importance than Comenius.

Educational reform a simple matter in small German monarchies.— To understand the possibility of these practical reforms on a small scale, one must keep in mind the political condition of Germany in the seventeenth century. It consisted of more than one hundred independent states, including duchies, principalities, free cities, etc. Some of these were very minute, and most of them were quite small as compared with independent governmental units of to-day. It was a relatively simple matter for the ruler of one of these small states to order a complete reform of the schools, and to see that it was carried into effect. Practically the only limitation, although a very serious one, was the lack of trained teachers. It was in such situations as this that the first successful practical reforms in elementary vernacular education were achieved.

Notable reforms in the duchy of Gotha, 1642. — The most notable, successful, and influential of such cases were the reforms in the duchy of Gotha during the reign of Duke Ernest the Pious (*r.* 1640–1675). Gotha is located south of Prussia in Germany and is about five hundred square miles in area.

Education to relieve social distress from Thirty Years' War.— Like many other German states, Gotha had suffered from the devastations of the Thirty Years' War, and the duke, a really beneficent ruler, strove in every way to repair matters and to improve the condition of the people. He considered education to be one of the most important factors. To reorganize the school system, he employed Andreas Reyher, who drew up a plan of organization which included many elements derived from Ratke and some from Comenius.

Included practical curriculum and compulsory attendance. — In addition to the ordinary instruction in the three R's, together with religion and singing, the following innovations were made in the work of the elementary vernacular school:

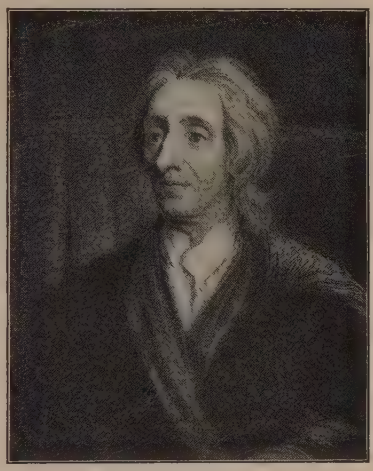
In the sciences the children were to learn to measure time by the hour glass or sundial, the rising and setting of the sun and the moon, the cardinal points, plants, and animals; furthermore ecclesiastical and secular things, as, for instance, the Thuringian country and what is found in it, "as trenches, roads, offices, hospitals, something about authorities, judges, merchants, business," etc., and lastly a little instruction in geometry and physics. General compulsory education was decreed. The parents should send their children to school from the fifth to the thirteenth year of age; in cases of withholding children from school the parents were to be punished with fines, which fines should be employed to support poor pupils. The schools were to be kept open in winter and summer. The teachers were directed to keep a roster of the pupils and note their attendance. Clergymen were the supervisors and inspectors of the schools. But the Duke did not rest satisfied with ordering and decreeing. He took care that better teachers were available; he had schoolhouses built, and organized a regular system of school inspection, while Reyher prepared the necessary schoolbooks, "according to the new methods." The Duke furthermore gave from his own exchequer large sums for increasing the teachers' salaries and induced large landowners to do the same. (**5**: 43.)

Concerning the success of these reforms Paulsen says, "It is probably not wrong to infer that these regulations of the pious Duke were the first of all school Regulations that were carried into effect without any considerable deductions." (**6**: 137.) Although the system was not continued as effectively by his successor, it served as an early object lesson to the other German states.

This will conclude our discussion of Comenius and his influence. We shall now take up for consideration the educational theories of John Locke, as the best example, from the seventeenth century, of a thoroughly secularized view of education which included religion as one factor, but not as a dominant factor.

John Locke; preëminent as a thinker in four lines, including education.— In the preceding chapter we noted Locke's preeminent achievement in three lines — as the founder of modern psychology based on the methods of natural science, as formulator of the principles of Anglo-Saxon democracy, and

as the exponent of the principles of English religious toleration. We noted further that Voltaire ranked Locke and Newton as the two greatest thinkers in Europe. A fourth way in which Locke achieved international fame was as a writer on education. As such he was the chief source of Rousseau's ideas, and he profoundly influenced German educational thought even before the appearance of Rousseau's "Émile" in 1762. In view of these facts it is worth while to give a brief account of his educational ideas even though they exerted little direct influence on elementary education.



JOHN LOCKE

Locke's career. *Scholar, tutor, physician, statesman, philosopher.*—John Locke (1632–1704) received his early education in one of the great English boarding schools, that of Westminster (1646–1652). He resided at Oxford University as student and tutor from 1652 to 1665. He was interested not only in philosophy, in which he became famous, but also in the study of medicine and physical science, actively coöperating with Boyle, the discoverer of Boyle's Law. In 1666 he was employed as physician, adviser, and tutor in the family of Lord Shaftesbury (then Lord Ashley). With this noted family he was associated for most of the period down to 1683. In this connection he occupied important political secretaryships, and was obliged to flee to Holland (1683) when his employer, the Lord President of the Council, was tried for treason.

During his six years of exile in Holland, Locke was in frequent communication with William and Mary, who, after

the English Revolution of 1688, became king and queen of England. Locke returned to England in their company, and within a short time King William offered to send him as ambassador to Prussia. But Locke had used his leisure in Holland to get his famous "Essay concerning the Human Understanding" ready for the press and preferred to continue his work as an author. The remainder of his life (fifteen years) was spent in pleasant circumstances, holding easy political positions and having the desired leisure for writing. During this time he was in intimate correspondence with his friend "Mr. Newton" (Sir Isaac). He died in 1704.

Qualified to be an expert authority on education. — Locke was thoroughly qualified by experience and study to write on education. As private tutor for a period of about ten years, he had ample opportunity to become acquainted with children and the possibilities of education. As a physician he was an authority on physical training. As a natural-science psychologist he was thoroughly informed concerning the facts of human nature, concerning habit formation, reasoning, etc. As an experienced public servant and traveler he was prepared to estimate the relative values of the various activities of life and their importance in education.

"Thoughts on Education," published 1693. — Locke's theories of education are contained for the most part in two of his works. The first, "Some Thoughts concerning Education," originated while he was in Holland, as a series of letters to a friend who desired advice concerning the education of his son. These letters were published in 1693. His other book, "The Conduct of the Understanding," is a brief essay concerning the development of proper methods of thinking.

It is uncertain how well acquainted Locke was with the writings of other educational reformers. Doubtless he derived some of his ideas from these, but one cannot read his Thoughts, with its wealth of detailed description of children's characteristics and of the methods of dealing with

them, without feeling that Locke's ideas were largely the product of a reasoned consideration of his own experiences.

The Thoughts considered from the standpoint of elementary education. — Because of the wealth of practical detail contained in the Thoughts it is difficult to summarize its fundamental principles. Almost everything in the book is sane and worthy of consideration. The points selected for emphasis will vary considerably with the point of view of the commentator. Our interest is in those principles that have a bearing on general elementary education, and we will select a few that are especially characteristic of Locke, and a few others which, as expressed by him, influenced Rousseau, Basedow, and others on the Continent.

Learning of less importance than virtue, wisdom, and breeding. — Four desirable results of education Locke stated to be *virtue, wisdom, breeding, and learning.* Concerning the last of these he said, "You will wonder perhaps that I put *learning* last, especially if I tell you I think it the least part." The learning which Locke had in mind was largely the study of Greek and Latin, but he applied the same general principle to other subjects of study. In this we notice a strong contrast with Comenius, who emphasized an encyclopedic knowledge of things as of first importance.

By good breeding Locke meant civil and "well-fashioned" behavior. This he maintained could be acquired by applying one rule, *not to think meanly of ourselves, and not to think meanly of others.* "Wisdom," he said, "I take in the popular Acceptation, for a man's managing his Business ably and with foresight in this World." True wisdom he considered the opposite of cunning or craftiness, saying:

> To accustom a Child to have true Notions of things, and not to be satisfied till he has them; to raise his mind to great and worthy Thoughts, and to keep him at a Distance from Falsehood and Cunning, which has always a broad Mixture of Falsehood in it; is the fittest preparation of a child for Wisdom. (7: §140.)

Virtue Locke considered to be the most important of the qualities to be developed by education.

'T is Virtue then [he said], direct Virtue, which is the hard and valuable Part to be aimed at in Education (7: §70). The great Principle and Foundation of all Virtue is placed in this: That a Man is able to *deny himself* his own Desires, cross his own Inclinations, and purely follow what Reason directs as best, though the Appetite lean the other Way. (7: §33.)

Aims of education secular but not irreligious.—Thus the fundamental aims of education were established by Locke without any mention of religion, indicating how much more secular than Comenius he was in his point of view. He was not a scoffer at religion, however, as were many of his followers on the Continent, but was a devout Christian. This found expression in 1695 in a treatise entitled "The Reasonableness of Christianity as delivered in the Scriptures."

Religious instruction the foundation of virtue.— So when he comes to discuss how virtue should be acquired, Locke says:

As the Foundation of this, there ought very early to be imprinted on his Mind a true Notion of *God*, as the independent Supreme Being, Author and Maker of all Things, from whom we receive all Good, who loves us, and gives us all things. And consequent to this instil into him a Love and Reverence of this Supreme Being. This is enough to begin with, without going to explain this Matter any farther; for fear lest by talking too early to him of Spirits, and being unseasonably forward to make him understand the incomprehensible Nature of that infinite Being, his head will be either fill'd with false, or perplex'd with unintelligible Notions of Him. . . . I am apt to think, that keeping Children constantly Morning and Evening to Acts of Devotion to God, as to their Maker, Preserver, and Benefactor, in some plain and short Form of Prayer suitable to their Age and Capacity, will be of more Use to them in Religion, Knowledge, and Virtue, than to distract their Thoughts with curious Enquiries into His inscrutable Essence and Being. (7: §136.)

Habituation, not precepts, the psychological basis of character. — Other important factors in developing virtue, according to Locke, are training in telling the truth and training to

be "good-natured" to others. Throughout the book emphasis is placed on habituation and practice, instead of on rules and precepts, as the sure means of securing the desired educational ends. This principle was expressed as follows:

> But pray remember, Children are *not to be taught by Rules*, which will always be slipping out of their Memories. What you think necessary for them to do, settle in them by an indispensable Practice, as often as the Occasion returns; and if it be possible, make Occasions. This will beget Habits in them, which, being once established, operate of themselves easily and naturally, without the assistance of Memory. But here let me give two Cautions: 1. The one is, that you keep them to the Practice of what you would have grow into a Habit in them, by kind Words, and gentle Admonitions, rather as minding them of what they forget, than by harsh Rebukes and Chiding, as if they were wilfully guilty. 2. Another Thing you are to take Care of, is, not to endeavor to settle too many *Habits* at once, lest by Variety you confound them, and so perfect none. When constant Custom has made any one Thing easy and natural to 'em and they practice it without Reflection, you may then go on to another. (7: §66.)

Physical health and development a prime requisite.— Locke placed especial emphasis on care for the child's physical development. The opening sentence of the Thoughts is, "A sound Mind in a sound Body, is a short but full Description of a happy State in this World." The first tenth of the book is devoted to detailed directions concerning the child's health. In general these may be summed up in two ideas, simplicity and hardening. According to Locke, children should be hardened to changes in temperature; should be taught to swim early; should spend much time in the open air; should wear loose clothing; and should have a plain and simple diet, no strong drink, and plenty of sleep in hard beds.

Method to be based on child's natural activities.— One of the most prominent factors in Locke's system was the use of the child's natural activities, especially his tendency to play, as the basis of method. The secret of method with children,

he said, consists in making instruction pleasant by this means. The following quotations expressed this idea:

. . . he that has found a Way how to keep up a Child's Spirit easy, active, and free, and yet at the same time to restrain him from many Things he has a Mind to, and to draw him to Things that are uneasy to him; he, I say, that knows how to reconcile these seeming Contradictions, has, in my Opinion, got the true Secret of Education. (7: §46.)

Studies not to be made agreeable by rewards.— This end is not to be obtained, however, by a system of petty rewards.

[Children's] Lives [are to be] made as pleasant and as agreeable to them as may be, in a plentiful Enjoyment of whatsoever might innocently delight them; provided it be with this Caution, that they have those Enjoyments, only as the Consequences of the State of Esteem and Acceptation they are in with their Parents and Governors; but they should never be offer'd or bestow'd on them, as the *Rewards of this or that particular Performance*, that they show an aversion to, or to which they would not have apply'd themselves without that Temptation. (7: §53.)

Free childish actions necessary. — Moreover, it will not be necessary to resort to rewards if children are permitted to be playfully active, said Locke, in the following words:

But if a right Course be taken with Children, there will not be so much need of the Application of the common Rewards and Punishments as we imagine, and as the general Practice has establish'd. For all their innocent Folly, Playing, and *Childish Actions, are to be left perfectly free and unrestrained*, as far as they consist with the Respect due to those that are present; and that will be the greatest Allowance. If these Faults of their Age, rather than of the Children themselves, were, as they should be, left only to Time and Imitation and riper Years to cure, Children would escape a great deal of misapply'd and useless Correction, which either fails to overpower the natural Disposition of their Childhood, and so by an ineffectual Familiarity, makes Correction in other necessary Cases of less Use; or else if it be of Force to restrain the natural Gaiety of that Age, it serves only to spoil the Temper both of Body and Mind. . . . This gamesome Humour which is wisely adapted by Nature to their Age and Temper, should rather be encourag'd to keep up their Spirits, and improve their Strength and Health, than curb'd and restrain'd; and the chief Art is to make all that they have to do, Sport and Play too. (7: §63.)

Study to be a sport and recreation and not a task. — Locke reiterated this idea in the following paragraph:

None of the things they are to learn, should ever be made a Burden to them, or imposed on them as a *Task*. Whatever is so proposed presently becomes irksome; the mind takes an Aversion to it, though before it were a thing of Delight or Indifferency. . . . And indeed it would be ridiculous, when Compulsion and Blame have rais'd an Aversion in the Child to his Task, to expect he should freely of his own accord leave his Play, and with Pleasure court the Occasions of Learning; whereas, were matters order'd right, learning anything they should be taught might be made as much a Recreation to their Play, as their Play is to their Learning. (**7**: §§73–74.)

Games to be used in learning to read. — These principles Locke applied to teaching children to read, by having them play with dice which had letters pasted on them, the game at first being to see who could throw certain letters, then certain words. "Besides these," he said, "twenty other Plays might be invented depending on *Letters*, which those who like this Way may easily contrive and get made to this Use if they will." (**7**: §154.)

Interesting storybooks to replace religious reading matter. — Concerning the selection of reading matter Locke said:

When by these gentle Ways he begins to read, some easy pleasant Book suited to his Capacity, should be put into his Hands, wherein the Entertainment that he finds might draw him on, and reward his Pains in Reading, and yet not such as should fill his head with perfectly useless Trumpery, or lay the Principles of Vice and Folly. To this purpose I think *Æsop's Fables* the best, which being stories to delight and entertain a child, may yet afford useful Reflections to a grown man. . . . If his *Æsop* has *pictures* in it, it will entertain him much the better, and encourage him to read, when it carries the Increase of Knowledge with it. . . . *Reynard the Fox* is another Book I think may be made use of to the same Purpose. (**7**: §156.)

Excessive premature religious instruction perverts idea of God. — Concerning the use of such methods in schools Locke said, "Nothing that I know has been considered of this Kind out of the ordinary Road of the Horn-book, Primer,

Psalter, Testament and Bible." He opposed the use of this religious material for learning to read because it was not attractive to children. He thought the Lord's Prayer, the Creeds, and the Ten Commandments should be repeated to children orally until they memorized them. Some select Bible stories might be read by children, but not the whole Bible; for, he said:

> What an odd jumble of Thoughts must a child have in his Head, if he has any at all, such as he should have concerning Religion who in his tender Age reads all of the Parts of the Bible indifferently as the Word of God without any other Distinction! I am apt to think, that this in some Men, has been the very Reason why they never had clear and distinct Thoughts of it all their Lifetime. (7: §158.)

Locke's ideas more influential as restated by Rousseau. — Other educational ideas of Locke are worth studying, but most of them that have influenced practice did so because restated by Rousseau, in connection with whom they will be studied. From the standpoint of origin Locke deserves more credit for them than Rousseau, but from the standpoint of influence their formulation by the latter is more important.

Locke's influence on English and American education uncertain. — It is difficult to determine how much Locke influenced school practice in England and America. There is evidence that his Thoughts was quite generally read; for example, Mrs. Field says that copies of the book were very common in the small chests of books which constituted colonial family libraries. He probably did not influence elementary-school practice very much. He is generally given credit for the emphasis on physical training which is prominent in English secondary schools. In a "Discourse on American Education," published in 1773, Boucher said:

> Who that reads at all has not read Milton's "Tractate on Education"; and also Locke's; and who having read them does not speak of them in terms of highest commendation? Yet how little has either the one or the other contributed to improve the national system of education!

Locke, one of the chief sources of German pedagogy. — On the other hand, Locke's influence on German pedagogy was very great. This influence was exerted not only through Rousseau's "Émile," but directly. Basedow (1723–1790), especially, was indebted to Locke and Comenius as two of the chief sources of his theories, and through Basedow many of these ideas found a place in the new schools which grew out of his propaganda in Germany. One of Basedow's co-laborers, Campe (1746–1818), translated Locke's Thoughts into German. Concerning Locke and Rousseau, Campe said, "They showed the way, the rest of us follow." The theories of Locke which Basedow and his associates organized most effectively in practice were (1) those concerning physical health, freedom, exercise, etc., and (2) those which advocate making all instruction pleasant by basing it on children's games.

Rousseau to be considered next. — In this chapter we have discussed Comenius and Locke as examples of the occasional tendency in the seventeenth century to consider elementary education from a secular point of view. Some stronger impulse was needed, however, to make this point of view popular, and this impulse came from the publications of Jean Jacques Rousseau, who has already been referred to in connection with the development of democracy, and whose place in the development of thought and education will be considered at length in the next two chapters.

BIBLIOGRAPHICAL NOTES

Concerning Comenius and his influence. — 1. KEATINGE, M. W. *The Great Didactic.* (A. C. Black, London, 1896.) This well-known translation with its one hundred fifty pages of critical, biographical, and historical introduction (in the complete edition), and its appendix containing a list of all the publications of Comenius, is the best source and commentary in English.

2. COMENIUS, J. A. *Orbis Pictus.* The reprint of the 1728 English-Latin edition (C. W. Bardeen, Syracuse, 1887) is a good supplement for Keatinge. It should be in the library of every department of education.

3. Laurie, S. S. *John Amos Comenius.* (C. W. Bardeen, Syracuse, 1892.)

4. Monroe, W. S. *Comenius and the Beginnings of Educational Reform.* (Charles Scribner's Sons, 1900.)

5. Nohle, E. History of the German School System, *Report of the United States Commissioner of Education*, 1897–1898, Vol. I, pp. 42–44. Contains the best easily accessible account of the Gotha system with its embodiment of Comenian ideas.

6. Paulsen, F. *German Education.* (Charles Scribner's Sons, 1908.)

Concerning Locke and his influence. — 7. Locke, John. *Some Thoughts Concerning Education.* Mr. Quick's edition of Locke's Thoughts (The Macmillan Company), with its biographical and critical introduction, is the best and practically the only necessary source for a brief study of Locke. I know of no good account of his educational influence (apart from his relation to Rousseau) in English. See almost any of the German histories of education, especially in connection with Basedow, for his influence on German pedagogy.

CHAPTER VIII

THE EMOTIONAL REACTION AGAINST RELIGIOUS AND ARISTOCRATIC FORMALISM — ROUSSEAU

Main points of the chapter. — 1. The emotional reaction, of which Rousseau was the leader, was directed against religious formalism and all phases of extreme artificial conventionality which placed a check upon the emotions.

2. Among the forms of conventionality which Rousseau attacked were (*a*) the Calvinistic repression of all æsthetic emotions and of the activities and emotions of children; (*b*) the empty, insincere ceremonial and worship of the educated Catholics of France; (*c*) the elaborate etiquette of the courtly and wealthy classes, with its attendant idleness, extravagance, lack of home life, etc.

3. The educational fulcrum in this artificial courtly society was the dancing master, whose function it was to make children into miniature adults as quickly as possible.

4. Rousseau's life was largely that of an irresponsible parasite. The foundation of his character was emotional spontaneity.

5. In opposition to Puritanical repression he maintained that emotions and passions were intended by God as important and valuable parts of human life.

6. In opposition to empty, religious ceremonialism he preached a religion of faith and inward worship, based on a study of nature and on the principles of morality.

7. In opposition to social conventionality Rousseau idealized and popularized the following in his novel the "New Héloïse": (*a*) enjoyment of natural scenery; (*b*) romantic love between the sexes; (*c*) simple domestic life in a rural environment.

8. Rousseau inspired many of the tendencies which have since become dominant in religion, art, and literature. He influenced especially Goethe, Schiller, and other German writers.

Emotional reaction supplemented other secular movements. — Various phases of the reaction against the ecclesiastical control of life have been described in a previous chapter,

namely, the scientific spirit, religious toleration, nationalism, and democracy. There remains to be described the emotional reaction which, while sincerely religious, was directed against the repressive views of Calvinism and the formal ceremonialism of French Catholicism. This emotional reaction attacked not only religious formalism but also all phases of extreme artificial conventionality which placed a check upon the emotions; hence it was directed particularly at the "drawing-room" life of the French aristocratic circles. Rousseau was the leader of this emotional reaction. We shall describe first the various types of formalism which prevailed and then take up Rousseau's reaction against them.

Religious formalism. *Calvinistic repression of children's activities and emotions.* — A brief statement of the repressive effect of Calvinistic Puritanism upon the emotional life was contained in the chapter on the curriculum of the Reformation elementary schools. The æsthetic emotions were included under the ban, the Puritans believing that beauty and religion were opposed; hence, as we have seen, there was no emotional appreciation of beauty in nature, art, music, or literature. All forms of natural enjoyment were condemned. Only such emotions as fear of the wrath of God and of eternal punishment were justified. This repression of spontaneity and emotional enjoyment bore particularly hard upon children, who were singled out by the Puritans as the particular imps of Satan, to be repressed and made over into theologizing prigs as soon as possible. Extreme Puritanism probably failed as completely in understanding and appreciating child life as any other system of thought that has ever prevailed. One of the best examples is furnished by Milton's harsh treatment of his little nephews whom he was educating, so harsh that his young wife went home against his will because she could not stand it to hear them cry when he beat them.

Another phase of the Puritan failure to understand children was exhibited in the theological material contained in

the textbooks described in an earlier chapter. The same was true of the little reading books for children. One of these, which had the greatest vogue in the later eighteenth century, was "A Looking Glass for Children," by James Janeway, a Puritan minister. It contained such admonitions to parents as: "Your child is never too little to go to hell"; "Put your children upon learning their Catechism and the Scriptures, and getting to pray and weep by themselves." To children it said: "Every mother's child of you are by nature Children of Wrath. . . . How dost thou spend thy time; is it in play and idleness with wicked children? Do you dare to run up and down on the Lord's day, or do you keep in to read your book?" This book and others contained numerous anecdotes of exemplary, precocious children, most of whom did not live to be more than seven or eight years of age. These tales were probably the basis of the induction that the good die young, and it is hard to see how they encouraged children in the path of righteousness.

Religion an empty formula for educated Frenchmen. — In an earlier chapter we noted the institutional character of the Catholic religion. Connected with this characteristic is its elaborate ceremonial, which under normal conditions exerts a profound influence on the communicant's religious emotions. But under certain conditions this ceremonial becomes a mere empty formula without connection with any sincere religious attitudes. This was largely the condition at the time of the Protestant revolt in the sixteenth century, and, as we have seen, the Catholic Reformation at that time remedied the evil to a considerable extent. In France during the eighteenth century, however, the Church had degenerated to its former condition and needed another spiritual reform. This was due to the participation of the higher ecclesiastics in secular affairs; the openly immoral life of many of them; the failure of the Church to keep step with the advances in scientific knowledge and to adapt its beliefs to newly discovered truths.

The opposition of the Church to generally accepted discoveries alienated the educated classes, resulting in the most perfunctory acceptance of its teachings, ridicule of Christianity, or open irreligion and atheism. The following incident illustrates this attitude:

> A little while ago [a chronicle narrates] some one put this question to one of the most respectable curates in Paris: Do you think that the bishops who insist so strenuously on religion have much of it themselves? The worthy pastor replied, after a moment's hesitation: "There may be four or five among them who still believe." (1: 293.)

Among the poorer classes sincerity in religious life was probably the rule, but among the educated the opposite was the case. In their eyes a positive religion was only a popular superstition, good enough for children and innocents but not for "sensible people." They considered it a duty to raise one's hat to the Host as it passed, but the duty was only to raise the hat. (1: 292.)

Aristocratic formalism. *Drawing-room life and the "dancing-master" education.* — The "dancing-master" education developed in France in connection with the drawing-room life of the court of Louis XIV and his successors. The children of the European nobility had for centuries been educated by special agencies adapted to the duties and standards of the nobility. This education varied from one extreme of training for the efficient management of public affairs, to the other extreme of training merely in etiquette and polite intercourse.

Sketch of history of training of noble youth. — In the period of chivalry during the Middle Ages the noble youth passed through the stages of page, squire, and knight, generally being sent from home to live in the household of another noble. During the Renaissance (1300–1600), in the small principalities and other states of northern Italy, the many-sided life required of the efficient prince, statesman, diplomat, or soldier resulted in the development of an elaborate

LE MAISTRE D'ESCOLE.
Cit habile Maistre d'Escole,
Accoustumé parmi le bruit,
Que font les Enfans qu'il instruit,
Joint les verges a la parolle.
Les uns d'une estrange façon
Apprehendent la discipline
Et semble pleurer a leur mode,
Quand ils apprennent leur leçon.
Mais les autres tout au contraire,
Par un plaisant sentiment,
Ne font l'Ecole qu'en riant
Dont ils ne sçavent ja profiter.
Toy qui te mocques de leurs jeux
Escoute quels fruit j'en retiresse,
Et sçauras toy qu'en ce faisance
Tu devrois a faire comme eux

A FRENCH SCHOOL OF THE SEVENTEENTH CENTURY

Notice the method of individual recitation and the convenient bunch of switches in the teacher's hand

educational theory and practice. The best example of this practice was the school of Vittorino da Feltre (1378 – 1446), maintained by the Duke of Mantua for the education of his own children and others intended for public careers. In this school, which was conducted in a large pleasant building on a large estate, physical training in sports and the use of weapons prepared for military efficiency; linguistic training developed conversational and oratorical skill; a study of the Greek and Roman classics bred an appreciation of the artistic and public life of the period; and religious training formed the basis of a sound moral character. Similarly, Fürstenschulen (schools for princes) had been established in Germany in the sixteenth century, and Ritterakademien (knightly academies) in the seventeenth century. The ideals of this courtly education were expressed in a large number of "Books of Courtesy," which were common in all the countries of Western Europe during the sixteenth and seventeenth centuries.

Richelieu and Louis XIV reduced nobles to idle parasites. — These earlier systems of courtly education emphasized efficiency in the management of affairs. But the work of Richelieu and Louis XIV in France, which had centralized government in the hands of the absolute king, had also destroyed the power of the nobles and reduced them to idle attendants at the court of the king. By a process of slow development they had changed from a body of efficient people concerned with practical affairs of state and war to a body of parasites.

Although in theory the king was supreme and absolute in control, as a matter of fact the business of administering state affairs had become so vast that only a very intelligent and energetic king could keep track of it. Under an incompetent ruler the administration and control were really in the hands of some faction of the nobility or courtiers. The dominant "ring" conducted affairs for its own profit. The only way to secure preferment was to make one's way personally at court.

It was the court that controlled most appointments, for no king could know all applicants personally and intimately. The stream of honor and emolument from the royal fountain-head was diverted, by the ministers and courtiers, into their own channels. (2: 13.)

The court became a great body of idlers, each individual feeling the necessity of being constantly present to look after his own interests.

Etiquette the outcome of practical rules for royal society. — These courtiers were governed in their actions toward one another by an elaborate system of rules of etiquette. Most of these were antiquated customs which had originally served a useful purpose, but did so no longer. As Lowell says:

They had been devised to prevent confusion and regulate the approach of courtiers to the king. As all honors and emoluments came from the royal pleasure, people were sure to crowd about the monarch, and to jostle each other with unmannerly and dangerous haste, unless they were strictly held in check. Every one, therefore, must have his place definitely assigned to him. (2: 18.)

Thus there developed a most involved body of artificial rules and customs which governed social intercourse. Brilliant descriptions of this "drawing-room" life are to be found in Taine's "Ancient Regime." I shall summarize some of these and quote others. Its chief characteristics were idleness, extravagance, barrenness and artificiality, separate life of husband and wife, formal relation of child and parent, and the dancing-master education.

Nobility a body of idlers. — The idleness has already been referred to. Most of the nobility were owners of vast country estates. Yet,

the nobility in France had no more idea of practicing agriculture, and making it a subject of conversation, than any other object the most remote from their habits and pursuits. . . . Through tradition, fashion, and deliberately, they are, and wish only to be, people of society; their sole concern is to talk and to hunt. (1: 49.)

The chief occupation of a well-qualified master of a house was to amuse himself and to amuse his guests.

As is the general so is his staff: the grandees imitate their monarch. Like some costly colossal effigy in marble erected in the center of France, and of which reduced copies are scattered by thousands throughout the provinces, thus royal life repeats itself, in minor proportions, even among the remotest gentry. The object is to make a parade and to receive; to make a figure and pass away time in good society. (1: 113.)

Aristocratic contempt for money. — The second characteristic of this aristocratic society was its extravagance. The attitude of contempt for money is thus expressed by Taine:

What kind of a seignior is he who studies the price of things? And how can the exquisite be reached if one grudges money? Money, accordingly, must flow and flow on until exhausted, through structures, furnitures, toilets, hospitality, gallantry, and pleasures. The extreme of profusion must accompany the height of gallantry, the man of the world being so much the more important according to his contempt for money. (1: 130.)

Lack of home life. — A third characteristic was the lack of home life, the separation in interests of husband and wife.

In a drawing-room, the woman to whom a man pays the least attention is his wife, and the same with her. Hence, at a time like this, when people live for society and in society, there is no place for conjugal intimacy. (1: 131.)

Husband and wife often maintained separate households and greeted each other in the same formal way as they greeted strangers.

"Here at Paris," writes Mme. d'O——, "I am no longer my own mistress. I scarcely have time to talk with my husband and to answer my letters. I do not know what women do that are accustomed to lead this life; they certainly have no families to look after, nor children to educate."

The formal and unnatural relations which existed between husband and wife were paralleled by similar relations between child and parent. Children addressed their parents as they

would strangers, no expression of affection being permitted. Often children scarcely saw their parents, and when they did the attitude of the children was usually that of deferential timidity. "M. de Talleyrand stated that he never slept under the same roof with his father and mother." Says another man of the period, "Like all the children of my age and station, I was dressed in the handsomest clothes to go out, and naked and dying in the house." Girls, for the most part, were placed in convents.

> The spirit of education is everywhere the same; that is to say, in the eyes of the parents there is but one intelligible and rational existence, that of society, even for children, and the attentions bestowed on these are solely with a view to introduce them into it or to prepare them for it. (1: 136.)

Barrenness and artificiality the rule. — Barrenness and artificiality were the dominant characteristics of this life.

> In the first place all naturalness is excluded from it: everything is arranged and adjusted — decoration, dress, attitude, tone of voice, words, ideas and even sentiments. "A genuine sentiment is so rare," said M. de V——, "that, when I leave Versailles, I sometimes stand still in the street to see a dog gnaw a bone."
>
> There was then, said one who was educated in that style, a certain way of walking, of sitting down, of saluting, of picking up a glove, of holding a fork, of tendering any article, in fine, a complete mimicry, which children had to be taught at a very early age in order that habit might become a second nature, and this conventionality formed so important an item in the life of men and women in aristocratic circles that the actors of the present day, with all their study, are scarcely able to give us an idea of it. (1: 157.)

Any departure from this studied behavior resulted in the individual being considered uncultured and uncouth, "a specimen" or "a simpleton." All natural forms of emotional expression were considered bad form. Apparent indifference in all situations was the ideal; all spontaneity and initiative were stamped out. Mr. Taine gives the following incident as an illustration. A young lady having obtained through family

influence a pension for Marcel, a famous dancing master, ran to his house to present him with the patent. Marcel received it but immediately dashed it on the floor, saying, " Mademoiselle, did I teach you to offer an object in that manner? Pick up that paper and hand it to me as you ought to." She picked up the patent and presented it to him in the proper manner, whereupon Marcel said, " That 's very well, mademoiselle; I accept it although your elbow was not quite sufficiently rounded, and I thank you."

Dancing master made children miniature adults. — The dancing master was the most important factor in the whole educational situation. His function was to make little children into young ladies and gentlemen as expeditiously as possible. In Monroe's " History of Education " is printed a fashion plate of the eighteenth century showing two children as miniatures of two adults who are represented in the same picture. The same condition is pictured in words by Taine, as follows:

> Even in the last years of the ancient régime [down to 1783] little boys have their hair powdered, "a pomatumed chignon (bourse), ringlets, and curls"; they wear the sword, the chapeau under the arm, a frill, and a coat with gilded cuffs; they kiss young ladies' hands with the air of little dandies. A lass of six years is bound up in a whalebone waist; her large hoop-petticoat supports a skirt covered with wreaths; she wears on her head a skilful combination of false curls, puffs, and knots, fastened with pins, and crowned with plumes, and so high that frequently " the chin is half way down to her feet "; sometimes they put rouge on her face. *She is a miniature lady and she knows it;* she is fully up to her part, without effort or inconvenience, by force of habit; the unique, the perpetual instruction she gets is on her deportment: it may be said with truth that *the fulcrum of education in this country is the dancing-master.* They could get along with him without any others; without him the others were of no use. For, without him, how could people go through easily, suitably, and gracefully the thousand and one actions of daily life, walking, sitting down, standing up, offering the arm, using the fan, listening and smiling, before eyes so experienced and before such a refined public? *This is to be the great thing for them when they become men and women, and for this reason it is the thing of chief importance for them as children.* (1: 137.)

This was the kind of life and education that Rousseau had before him when he wrote "Émile"; a life in which everything that was spontaneous, emotional, natural, child-like, was eliminated in favor of indifference, artificiality, and polite formality.

French courtly ideals copied elsewhere. — Not only did these ideals prevail among the nobility proper, but they played a large part in the life of the wealthy members of the middle class, and even descended to shoemakers and other artisans. They were most highly developed at the French court, but they were copied in all the courts of Europe. Taine says:

> Paris is the schoolhouse of Europe, a school of urbanity to which the youth of Russia, Germany, and England resort to become civilized. Lord Chesterfield in his letters never tires of reminding his son of this and of urging him into these drawing rooms, which will remove "his Cambridge rust." (1: 139.)

Even in the American colonies, among people of quality, the same ideals and practices in the training of little children were quite common. In the physical development of little girls delicacy of figure and whiteness of complexion were considered ideal by many mothers. "Little Dolly Payne, afterwards Dolly Madison, wore long gloves, a linen mask, and had a sunbonnet sewed on her head every morning by her devoted mother." Very light high-heeled shoes were worn, making exercise impossible. Sometimes little girls five years old were bound up in stays "made of heavy strips of board and steel, tightly wrought with heavy buckram or canvas into an iron frame like an instrument of torture." (**4**: 57.)

It was fashionable to dress the hair of little children just the same as that of adults. Little boys five to seven years of age had their heads shaved and wore wigs. A little girl had her hair dressed over a high roll, which was so heavy and hot that it made her head "itch & ache & burn like anything." She described her first experience with it as follows:

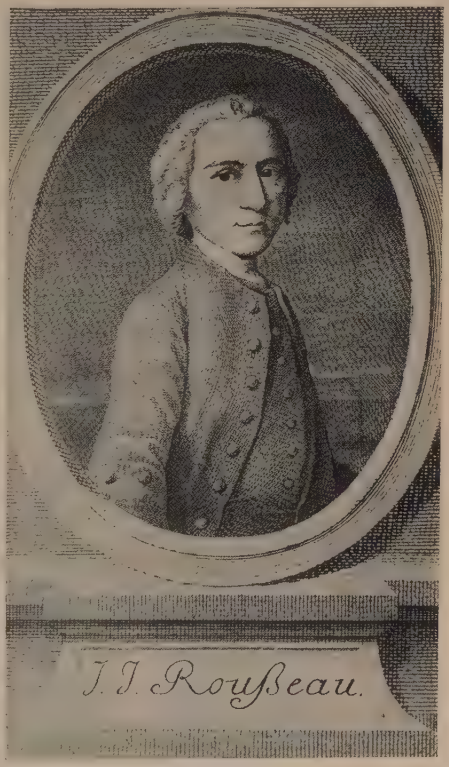
When it first came home, Aunt put it on & my new cap on it; she then took up her apron & measured me, & from the roots of my hair on my forehead to the top of my notions, I measured about an inch longer than I did downwards from the roots of my hair to the end of my chin. (**4**: 59.)

Children in paintings, miniature adults. — The conception of the child as a miniature adult, which prevailed in the eighteenth century in America, appears in the portraits of children painted at that time. Nearly all of them are characterized by apparent maturity in dress, expression, and gesture. Either children were so trained and dressed that they actually did appear like miniature adults, or the artist's conception of the child as an adult prevented him from seeing the real child. A picture of a girl of fourteen might very easily be mistaken for a woman of thirty. A boy standing beside his father seems different only in size. Speaking of two of these portraits which were being returned by the Boston Museum of Fine Arts, a gentleman wrote, "I shall miss the little grown-ups — were there no children in those days?" Portraits painted after the American Revolution "show the definite changes in dress which set in with other republican institutions. At this date there began to be worn a special dress for both boys and girls." (**4**: 61.)

The emotional reaction; Rousseau's life and character. — Against the formalism, artificiality, and conventionality of the religious and social life Rousseau offered the strongest protest. It was in this that he was most original because he was simply giving expression to his own spontaneity. In his political and educational writings he copied largely from Locke and others, but in his "unrestrained emotionalism" he was simply himself. While knowledge of his life is not essential to an understanding of his historical significance, a brief sketch of it may help in understanding the origin of some of his theories.

Jean Jacques Rousseau was born in 1712 in Geneva. His mother died when he was a child, and his father, an ardent but irresponsible republican, fed him on romances which prematurely stimulated a naturally precocious, passionate nature.

Apprenticed to an engraver at thirteen, he ran away at sixteen to become a tramp. Turning Catholic as the result of a good dinner, he adopted himself into the household of a fascinating grass widow of twenty-nine, a recent convert to Catholicism, upon whom he depended for support with occasional intermissions for over ten years (to 1741), at the same time making love to all the attractive women he met; tramping, stealing, and lying wherever it suited his purpose. Going to Paris at the age of twenty-nine, he maintained himself by copying music and cultivating the society of ladies of influence. He spent a few months as secretary to the French ambassador at Venice. Returning to Paris, he formed an attachment for a stupid, ignorant servant girl, with whom he lived the rest of his life, although not married for many years, sending their five children to the foundling asylum, in spite of the mother's tearful protests.



ROUSSEAU

Rousseau wrote operas, some of which were notable successes. He became the friend of the leading literary men of Paris, including d'Alembert, the Abbé Condillac, and Diderot.

While calling on the latter (who was under arrest because of some of his writings), Rousseau was inspired to write for the Dijon Academy prize, which he won by maintaining that the progress of the sciences and arts had contributed to the corruption rather than the purification of morals (1749). This essay brought him immediate fame, and he became the lion of the brilliant and immoral French society whose life he had really criticized. But to be consistent with his theories, he gave up his gold facings and white stockings, put off his sword and sold his watch, and lived the simple life. He visited his native town, Geneva, where he received an ovation and returned to Protestantism. In 1755 he wrote a second famous essay on the "Origin of Inequality among Men."

To escape the unpleasantness of city life he moved to a cottage in the forest of Montmorency on the beautiful country place of one of his rich patronesses (1756). While living here he engaged in a controversy with Voltaire on the relation of the Lisbon earthquake (in which fifteen thousand people were killed) to the goodness of God. As he wandered in the woods and listened to the music of the nightingale and the murmur of the brooks, he peopled the woods, in his imagination, with all the beautiful women he had known, and lived in a continued-story daydream in which he pictured himself as the lover of a beautiful maiden. This dream developed into his romance the "New Héloïse," which, published in 1761, took Paris by storm. This was quickly followed by the "Social Contract" and the "Émile" (1762). To escape persecution for religious innovations advocated in the "Émile," he fled to the protection of Frederick the Great (1762–1765) and to England (1765–1767). The opposition in France having subsided, he spent his remaining years there, troubled only by his insane, emotional, suspicious imagination. He died in 1778.

Spontaneity the foundation of Rousseau's character.— The following statement by Davidson is one of the best characterizations of Rousseau's character:

We shall not greatly err, if we say that the foundation of Rousseau's character was spontaneity, that his whole life was an endeavor to give free and uncontrolled expression to this, and that his works were so many efforts to champion it, as the ideal of life, and to show how it might be preserved, free from constraint and corruption. In Rousseau himself, this spontaneity, naturally very rich and strong, was fostered by an education, which, leaving him at liberty to follow his momentary caprice, fired his imagination and made it ungovernable, so that he early became utterly incapable of submitting to any constraint, regulation, continuous occupation, or duty, however sacred. He lived in, and for, the present moment, seeking to draw from it the greatest amount of enjoyment, tranquil or ecstatic, as his mood happened to demand, without any thought of past, future, or the claims of others. (6: 71.)

Rousseau's emotionalism the antithesis of Puritan repression. — It is evident that Rousseau's life and his standards of living were the direct antithesis of the hard, uncompromising humdrum life of Puritanism. Occasionally in his writings Rousseau praised the Puritan life; for example, when Voltaire, who was living near Geneva, sought to have a theater established in that city, where there had been no drama since the days of the miracle plays, Rousseau protested vigorously in a long letter. Similarly, in the "Émile" and in the "New Héloïse," he sometimes emphasizes duty and control of the emotions; but the major emphasis in his life and writings is on unrestrained enjoyment of the moment. He is the best example of the type of character which, since his day, has come to be known as the "artistic temperament." That man has lived most, he said, who has "felt life most," not he who has seen the greatest number of years. The acme of anti-Puritanism is expressed in the following quotation from the "Émile" (Book IV):

Our passions are our principal instruments of our conservation, and it is therefore an attempt as vain as it is ridiculous to wish to destroy them; it would be to control Nature and reform the work of God. If God were to tell man to destroy the passions which he has given him, God would and would not; he would contradict himself. But he has never given this senseless order; nothing like it is written in the human heart. . . .

Rousseau substituted faith and inward worship for religious ceremonialism. — The persecutions that Rousseau suffered were almost entirely the result of his attack on religious hypocrisy and formalism. This attack was particularly vigorous in the "Émile," which was burned in Catholic Paris and Calvinistic Geneva. In the "Émile," Rousseau presented his own religious convictions, namely, a belief in a natural deism, in God revealed through nature, in an "intelligent will giving motion to the universe and animating all nature." So Émile was to be brought to a realization of God through a study of organic nature, but to be kept apart from all dogmatic systems or special sects. The following are typical quotations:

> Observe the spectacle of nature — listen to the inner voice. Has not God said everything to our eyes, our conscience, our judgment? What more will men tell us? Their revelations only degrade God by giving Him human passions. Far from illuminating our ideas of the Great Being, their particular dogmas confuse them. . . . They render men proud, intolerant, cruel. . . . I ask what good all this can subserve, and there is no answer. I see in it only the crimes of men and the miseries of the human race. (5: 215.)

> My son, let your heart always desire that there may be a God, and you will never doubt it. For the rest, whatever course you adopt, remember always that the true duties of religion are independent of the institutions of men; that a just heart is the real temple of divinity; that in every country and sect to love God beyond all things else and one's neighbor as one's self is the sum of the law; that there is no religion which dispenses with the principles of morality; that nothing is essential save these; that inward worship is the first of such principles; that without faith no true virtue can exist. (5: 217.)

Opposed atheism as well as ceremonialism. — These quotations show Rousseau as the opponent not only of empty ceremonialism but also of atheism, which was so common in France at that time. True religion there is, he said, but the way to it is not through ceremonial and dogma but through emotion tempered by reason. The influence of Rousseau on religion has been "incalculable" according to Davidson.

His confession of faith was adopted by a large body of the French revolutionists and "is perpetuated to our own time, where it forms the chief element in religion, taking the place of dogma and so bidding defiance to the results of criticism, higher and lower."

Rousseau opposed social conventionality with the simple life. — Rousseau's attack on the artificial standards of the drawing-room society may be summed up in the first sentence of the "Émile." "Everything is good as it comes from the hand of the author of nature, everything degenerates in the hands of man."

There were three circumstances in which Rousseau was perfectly happy: one was contemplating beautiful scenery; another, making passionate love to any attractive woman; the third, living a simple domestic life in a rural cottage. On the other hand, the circumstance which annoyed him most was to be in a large social gathering. As Taine said:

> He feels awkward in a drawing-room. He is not capable of conversing and appearing amiable; his wit is late, coming to him on the steps as he leaves the house; he keeps silent with a sulky air or utters stupidities, redeeming his awkwardness with the sallies of a clown or with the phrases of a vulgar pedant. Elegance annoys him, luxuriousness makes him uncomfortable, politeness is a lie, conversation mere prattle, ease of manner a grimace, gayety a conventionalism. . . . (1: 225.)

The three phases of life which Rousseau enjoyed he idealized in his novel the "New Héloïse" (1761).

Rousseau popularized enjoyment of natural scenery. — In its descriptions of natural scenery the "New Héloïse" was an epoch-making work. This phase of the book is well described by Hudson, who says:

> In the "Nouvelle Héloïse" as never before in the history of prose fiction, nature becomes a distinct and fundamental element of the human story. Woven into the drama of life and passion, of sin and moral victory, are magnificently wrought pictures from the country which Rousseau never ceased to love and yearn for. . . . He was certainly one of the very first, not in France alone, but in Europe, to discover the country,

to feel its beauty, to penetrate its religious meaning, to proclaim to all who were dungeoned in cities, and whose horizons were bounded by brick and mortar, the glory, the freshness, the anodyne sweetness, the uplifting power of nature. . . . It is no abuse of language to say that the "Nouvelle Héloïse" revealed a new emotion and started a new cult. (5: 175.)

Rousseau loved not only the gentler aspects of natural scenery, but his soul was also moved

by the stupendous grandeur of the mountains, the solitude of Alpine passes, the deafening crash of mighty torrents, the awe-inspiring spectacle of a world of ice and snow. In this . . . Rousseau stands alone among the French writers of the time. . . . In France no sign of this new sentiment had hitherto appeared; while even in England (with only occasional exceptions) mountain scenery was still very commonly regarded (as in the days of Defoe and Addison) as barren and frightful rather than impressive and sublime. Thus, though Rousseau himself never ventured so far as his disciples in his enthusiasm for nature in the savage state, his historic place as the first interpreter of the wonder and glory of the Alps is incontestable. (5: 176.)

"*New Héloïse*" *idealized romantic love.* — The "New Héloïse" was written during the period when he was partially insane and was living his imaginary romance in the woods of Montmorency. Hence the first part contains elaborate, highly analytical descriptions of the feelings of the two lovers, which created a startling interest in French readers. The following incident is an example described by Taine:

A woman of the court is familiar with love as then practiced, simply a preference, often only a pastime, mere gallantry of which the exquisite polish poorly conceals the shallowness, coldness and occasionally, wickedness. . . . One evening about to go out to the opera ball, she finds the "Nouvelle Héloïse" on her toilet-table; it is not surprising that she keeps her horses and footmen waiting from hour to hour, and that at four o'clock in the morning she orders the horses to be unharnessed, and then passes the rest of the night in reading, and that she is stifled with her tears; for the first time in her life she finds a man that loves. (1: 273.)

Idealized simple domestic life. — The third phase of life that Rousseau idealized was simple domestic tranquillity. The

second part of the "New Héloïse" contains minute descriptions of an ideal establishment in the country, characterized by primitive simplicity, frugality, plain diet, home industries, etc.

Emotional element in modern religion, art, and literature due to Rousseau. — The influence of Rousseau, as the leader of the emotional reaction, upon subsequent thinkers and writers is almost incalculable. Concerning it Davidson says:

> Indeed modern art and literature with their fondness for the picturesque, the natural, the rural, the emotionally religious, the analysis of sentiment, and the interplay of passions, and their rebellion against the stiff and the conventional, may almost be said to date from Rousseau. [You may] trace his footsteps in the studiedly rural cottages and picturesque, half-wild parks, so common in Europe and America; in the landscape paintings, genre-pictures, and pictures of pathetic or religious emotions, that fill our galleries; or in the nature groups and sentimentally posed figures that delight the majority of our sculptors. (**6**: 228.)

Influence greatest in Germany; Goethe and Schiller. — In French literature hundreds of writers were Rousseau's disciples. From England Rousseau had derived much of his own philosophy and spirit, but his writings in turn exerted a powerful influence on English writers, notably Byron and Shelley, and in more recent times on George Eliot. But it was in Germany and the German-speaking part of Switzerland that Rousseau's influence was especially strong and first modified public education. As Paulsen says:

> Rousseau exercised an immense influence on his times, and Germany was stirred even more deeply than France. In France Voltaire continued to be regarded as the great man of his time, whereas, in Germany, his place in the esteem of the younger generation had been taken by the enthusiast of Geneva. Kant, Herder, Goethe, Schiller, Fichte, all of them were aroused by Rousseau to the inmost depths of their natures. He gave utterance to the passionate longings of their souls; to do away with the irritation of French courtly culture, by which Nature was suppressed and perverted in every way, to do away with the established political and social order, based on court society and class distinctions, . . . and to return to Nature, to simple and unsophisticated habits of life. (**9**: 157.)

In the next chapter we shall take up Rousseau's theory of education as presented in the "Émile," and then trace the revolutionary influence of this book in later chapters.

BIBLIOGRAPHICAL NOTES

Concerning the social life of the eighteenth century, particularly in France. — 1. TAINE, H. A. *The Ancient Régime.* (Henry Holt and Company, 1896.) An invaluable background for the history of education. A delightful style and wealth of illustrative incidents make it very pleasant reading.

2. LOWELL, E. J. *The Eve of the French Revolution.* (Houghton Mifflin Company, 1892.) A standard authority. More prosaic but somewhat more careful than Taine.

Concerning the Puritanical attitude toward children. — 3. GODFREY, ELIZABETH. *English Children in the Olden Time.* Chap. xiii. Chap. xvii contains an account of Rousseau's influence on the treatment of English children.

4. EARLE, ALICE M. *Child Life in Colonial Days.* (The Macmillan Company, 1904.)

Concerning Rousseau. — 5. HUDSON, W. H. *Rousseau and Naturalism in Thought and Life.* (Charles Scribner's Sons, 1903.) I consider this the fairest and best account of Rousseau from the standpoint of his emotionalism. See chap. viii, pp. 152–180, on the "New Héloïse."

6. DAVIDSON, T. *Rousseau and Education according to Nature.* (Charles Scribner's Sons, 1907.) Interprets Rousseau from the standpoint of his irresponsible spontaneous emotionalism, but is biased by a desire to show that Rousseau's educational theory is immoral and invalid.

7. MORLEY, J. *Rousseau.* 2 vols. (The Macmillan Company, 1886.) See Vol. II, chap. i, on the "New Héloïse."

8. TEXTE, J. *Jean Jacques Rousseau and the Cosmopolitan Spirit in Literature.* (The Macmillan Company, 1899.) Contains a complete account of the literary movement in which Rousseau was a central figure. See Book II, chap. v, on the "New Héloïse."

9. PAULSEN, F. *German Education.* (Charles Scribner's Sons.)

10. BOYD, W. *The Educational Theory of Jean Jacques Rousseau.* (Longmans, Green, & Co., 1911.)

CHAPTER IX

EDUCATION BASED ON THE CHILD'S INSTINCTS AND CAPACITIES — ROUSSEAU'S "ÉMILE"[1]

Main points of the chapter. — 1. Just as Rousseau's influence was revolutionary in politics and in the field of the emotional life, so his "Émile" was the inspiring source of nineteenth-century educational reforms.

2. The "Émile" should be studied from the standpoint of its revolutionary influence on practice, and not belittled by carping criticism of Rousseau's character, of his lack of originality, of the peculiarities of his literary style, or of the validity of his theories.

3. According to Rousseau's preface the "Émile" was written primarily as a book on child study, and should be read to find out about children's characteristics.

4. The fundamental point in the psychology of children, according to Rousseau, is that they exhibit characteristic differences at different stages of maturing, and that appropriate activities should be provided for each stage; the child should be treated as a child, and not as a miniature adult.

5. Applying this general theory, Rousseau emphasized the following principles: (*a*) The physical activity of children is important for the development of physical strength and of intelligence. (*b*) Sense perception connected with motor activity and with experimental investigation is fundamental in elementary education. (*c*) Children reason about matters related to their immediate experience and interests, and hence the reasoned solution of small scientific problems should be part of their education. (*d*) The premature memorizing of words spoils the child's judgment.

6. Various practical corollaries deduced from these principles by Rousseau are summarized at the end of this chapter, and it is there shown that in many of their reforms Basedow, Pestalozzi, Herbart, Froebel, and even Colonel Parker and Dewey were carrying out suggestions made by Rousseau.

[1] The "Émile" should be read by all students and discussed in class. See above, p. xxiii, for further directions. See also the comments in the bibliography at the end of this chapter.

Rousseau's "Émile" the inspiring source of nineteenth-century educational reforms. — Preceding chapters demonstrated the continued dominance of the religious basis in elementary-school practice before the nineteenth century, in spite of the development of strong secular interests in social life. While these secular interests gradually replaced the narrow religious point of view which had dominated European thought and life for such a long period following the Reformation, they had exerted little influence on elementary-school practice. Occasional theorists like Comenius and Locke gave secular considerations some place in elementary education, but the conservative tendencies of the schools were so strong, and the power of the ecclesiastics still so great, that some revolutionizing impulse was needed to break the traditions of two hundred years. This impulse came in the form of Rousseau's "Émile," issued in 1762, the most influential discussion of the theory of education published in modern times. We have noted in earlier chapters how great Rousseau's influence was along other lines; how his "Social Contract" was the handbook of the French Revolution, and how he was the leader of the great emotional reaction — the "back-to-nature" movement in modern art, literature, and religion. Similarly, the publication of the "Émile" soon brought to a focus in Switzerland and Germany strivings for educational reform, which in less than half a century, through the activities of such educational leaders as Basedow and Pestalozzi, coöperating with influential statesmen, created a new type of educational institutions — the secular national elementary schools of the nineteenth century.

Possible points of view for interpreting the "Émile." — In discussing the "Émile" it is important to consider it from this standpoint, namely, its revolutionizing effect on actual practice. This is not always done in the histories of education, and students often fail to appreciate its *historical* significance as a consequence. It is not unusual for

commentators to endeavor to belittle the importance of the "Émile" by criticisms of Rousseau's character or of the style of the book, instead of trying to determine its real influence.

1. "*Émile*" *not original but revolutionary.* — It is sometimes asserted that the "Émile" was not original or unique, but that Locke and even numerous obscure writers had said many of the things contained in it. This is true, but it does not detract from the fact that the "Émile" was revolutionary in direct influence, just as the "Social Contract" was, while these other publications were not. These minor works but prepared the way for the "Émile." The genius of Rousseau consisted not in his originality but in his ability to formulate certain current tendencies with such emotional fervor and rhetorical skill as to grip the hearts of people and arouse them to vigorous action.

2. *Extreme statements a literary device.* — The "Émile" is criticized as being exaggerated, sensational, paradoxical, contradictory, impracticable. There is much truth in this assertion, yet these very characteristics helped to make the book so influential. Rousseau was a literary genius, a master rhetorician, and he was using literary devices that would assure immediate attention and discussion. He adapted his tools and method to his purpose.

3. *Inconsistency does not detract from fact of historical influence.* — It is maintained that Rousseau's own life was inconsistent with the fine ideals presented in the "Émile." Thus a recent writer, in commenting on Rousseau's appeal to parents to care for their own children instead of turning them over to nurses and hirelings, says, "It may be noted with *one* comment. How abominable his conduct to his own children was if he really believed what he wrote." Now it makes no difference in the historical significance of the "Émile" whether Rousseau practiced what he preached or not. The facts of historical importance are: first, the prevailing practice of parental neglect of children; second, the

scathing criticism of this practice and the appeal for reform embodied in the "Émile"; and third, the influence of this appeal in modifying the prevailing and subsequent practice. The prevailing practice was described in Chapter VIII. The essence of Rousseau's criticism is contained in this quotation:

> Let us not think it strange that a man whose wife disdains to nourish the fruit of their union himself disdains to undertake its education. There is no more charming picture than that of family life; but the lack of one trait disfigures all the others. If the mother has too little strength to be a nurse, the father will have too much business to be a teacher. The children sent from home and dispersed in boarding-schools, convents, and colleges, will carry otherwheres the love of home — or, rather, they will bring home the habit of being attached to nothing. Brothers and sisters will scarcely know one another. When they are all assembled in state, they can be very polite and formal, and will treat each other as strangers. The moment that intimacy between parents ceases, the moment that family intercourse no longer gives sweetness to life, it becomes at once necessary to resort to lower pleasures in order to supply what is lacking. Where is the man so stupid as not to see the logic of all this? (1: 15.)

Rousseau's influence on the prevailing practice is suggested in these words of Taine:

> If you would comprehend the success of *Émile* call to mind the children we have described, the embroidered, gilded, dressed-up, powdered little gentlemen, decked with sword and sash, . . . alongside of these, little ladies of six years, still more artificial, . . . so many veritable dolls to which rouge is applied, and with which a mother amuses herself each morning for an hour and then consigns them to her maids for the rest of the day. This mother reads *Émile*. It is not surprising that she immediately strips the poor little thing [of its social harness of whalebone, iron, and hair] and determines to nurse her next child herself. (2: 273.)

In fact, the "Émile" brought children into style for a period, and fashionable mothers found time to devote to their education. To be sure, some of this interest was superficial and temporary, as with any other fashion, but to a considerable extent it was sincere and permanent.

As regards subsequent practice, Rousseau was the prophet of the spirit exhibited later by Pestalozzi as he entered into the lives of the poor children about him — the spirit so commonly associated with Froebel and expressed in his invitation, "Come let us live with our children."

4. *Rousseau's character not a factor in historical significance of the "Émile".* — The education described in the "Émile" is sometimes said to be but a reflection of Rousseau's own irresponsible life and character, and hence not deserving of much emphasis or study. The first part of this statement is only partially true, as may be judged from the opposite contention expressed in paragraph 3. Some of Rousseau's ideals as embodied in the "Émile" corresponded to his own character and some were opposite. Neither relation is of any special historical moment. Even if the "Émile" had been published anonymously, its historical significance in reflecting, protesting against, and modifying current educational practices would be the same.

5. *Validity of theory in the "Émile" not an historical issue.* — The theory of education presented in the "Émile" is declared by some to be unsound or untrue, and destructive criticism should be the basis of studying it. The first part of this statement is only partially true. While much of the "Émile" is not acceptable to-day, especially the theories of the moral development and education of children, yet many of its most fundamental principles are generally accepted as valid by scientific students of education. But even if they were not valid, the fact of their actual historical influence would be the same.

Influence of the "Émile" on subsequent practice to be emphasized. — In the following discussion the five critical points of view enumerated above will not be taken, but those parts of the "Émile" will be discussed which were of large practical influence, and which became the basis of the development of elementary-school theory and practice during the

nineteenth century. In doing this we shall leave out of account certain parts that are commonly discussed at length. For example, Rousseau proposed to bring up his ideal imaginary pupil, Émile, in the country, as much removed from social influences as possible. In the "Émile" this "antisocial" phase of education occupies an important place, but among the most influential followers of Rousseau it did not — Basedow, Pestalozzi, Herbart, and Froebel all placing a high educational value on social influences.

"Education according to nature" an empty phrase.— Another example of an element that we shall neglect is the idea of "education according to nature." Ordinarily the first sentence of the first chapter, "Everything is good as it comes from the hands of the author of nature; everything degenerates in the hands of man," is chosen as the keynote of the book. As a corollary to this position Rousseau maintained that all interfering restrictive education was bad. Yet, although Rousseau's followers mentioned above nearly all adopt the general principle that "education should be according to nature," there is little agreement as to what such a natural education would be, and in no important case was it interpreted as a noninterfering, do-as-you-please treatment of the child. Basedow organized an elaborate machinery of instruction. Pestalozzi and Herbart believed in strict disciplining and much active instruction, and Froebel, who most resembles Rousseau in his general enthusiasm for "nature," organized a very complicated, artificial system of exercises for little children from three to five years of age.

Moreover, such high-sounding phrases as "education according to nature" have little definite content. Hundreds of writers besides Rousseau have conjured with the word "nature" in many different ways. What does it mean? At one extreme you find Rousseau, who would oppose nature to social organization, and at the other extreme those who include the highest form of social organization as one of the

phenomena of nature. Neither interpretation contributes very directly to the determination of practice in elementary schools.

"Émile" written primarily as a work on child study. — If we examine the preface of "Émile," we shall discover what Rousseau considered to be the fundamental point of view from which to study the book, as expressed in the following quotation:

> *We do not know childhood.* Acting on the false ideas we have of it, the farther we go the farther we wander from the right path. Those who are wisest are attached to what is important for men to know, without considering what children are able to apprehend. They are always looking for the man in the child, without thinking of what he was before he became a man. This is the study upon which I am most intent, to the end that, though my method may be chimerical and false, profit may always be derived from my observations. I may have a very poor conception of what ought to be done, but I think I have a correct view of the subject on which we are to operate. *Begin, then, by studying your pupils more thoroughly, for it is very certain that you do not know them.*[1] Now, if you read this book of mine with this purpose in view, I do not believe that it will be without profit to you. (1: xlii.)

If we adopt Rousseau's own recommendation, we will read the "Émile" to find out about children. This he said was the subject in which he was most interested, the one he knew most about, and the one a person should have in mind in reading the book. And it was this phase of the book that had the largest influence on subsequent practice. We have noted above how the "Émile" brought the care of children into style; and this was not a passing fashion, for there has continued a growing tendency to consider education not simply in terms of so much material to be learned, but in terms of the instincts and capacities of the child, his possibilities at different ages, his mental and physical responses. Education should be based on the maturing and cultivating of the child's instincts and capacities; this is the fundamental, influential, revolutionizing theory advocated in the "Émile." Accordingly it has been selected as the topic of this chapter.

[1] Italics not in original.

Periods in the maturing of children; not miniature adults. — The first point to notice about children, according to Rousseau, is that they are not miniature adults, as they were conceived to be in the eighteenth century, but that they are psychologically very different from adults, and they exhibit characteristic differences at different ages. Some child-study experts at the present day divide the child's life roughly into growth periods; Rousseau did the same, distinguishing the periods as follows: from birth to five years; from five to twelve; from twelve to fifteen; from fifteen to twenty. According to Rousseau each of these periods possesses peculiar characteristics which are the results of the natural growth of the body, that is, due to the natural process of maturing.

Appropriate activities for each age; sentimental argument. — The second point to be noticed is that for each one of these stages there are certain appropriate activities or modes of living. If these appropriate activities are provided or stimulated, the healthiest, most satisfactory and complete maturing will result. If this is not done, but, on the contrary, activities suited to a later stage of maturity are provided, the final result will be less satisfactory.

Rousseau argues this position from two different standpoints — first, sentimental; second, scientific or psychological. The sentimental appeal which is quoted below is hardly such reasoning as an educator should be guided by, but it was probably more influential with sentimental people than the scientific argument.

> Of all the children who are born, only a half, at most, come to adolescence; and it is probable that your pupil will not live to be a man.
>
> What must we think, then, of that barbarous education which sacrifices the present to an uncertain future, which loads a child with chains of every sort, and begins by making him miserable in order to prepare for him, long in advance, some pretended happiness which it is probable he will never enjoy? Were I even to assume that education to be reasonable in its object, how could we witness, without indignation, these poor unfortunates subject to an insupportable yoke, and condemned,

like galley-slaves, to never-ending toil, without any assurance that such sacrifices will ever be useful to them? The age of mirth is passed in the midst of tears, chastisements, threats, and slavery.

O men, be humane; it is your foremost duty. Be humane to all classes and to all ages, to everything not foreign to mankind. What wisdom is there for you outside of humanity? *Love childhood; encourage its sports, its pleasures, its amiable instincts.* Who of you has not sometimes looked back with regret on that age when a smile was ever on the lips, when the soul was ever at peace? Why would you take from those little innocents the enjoyment of a time so short which is slipping from them, and of a good so precious which they cannot abuse? Why would you fill with bitterness and sorrow those early years so rapidly passing, which will no more return to them than to you? (1: 44–45.)

Psychological argument.—Rousseau's psychological argument for providing activities appropriate to each age of childhood is reiterated throughout the book. The following quotation is an example:

Nature would have children be children before being men. If we wish to pervert this order, we shall produce precocious fruits which will have neither maturity nor flavor, and will speedily deteriorate: we shall have young doctors and old children. Childhood has its own way of seeing, thinking, and feeling, and nothing is more foolish than to substitute our own for them.

Each age, each period of life, has its proper perfection, a sort of maturity which is all its own. (1: 121.)

Contemporary failure to appreciate stages of development.—To appreciate the relation to practice of this most fundamental of Rousseau's contentions, it is only necessary to recall the description of child life in the eighteenth century given in the previous chapter. The ideal of the parent was to make young ladies and gentlemen of children as early as possible. To this end they were initiated into adult activities as early as six years of age. In their portraits they were so generally represented as little grown-ups that one might wonder if there were any children in those days.

The same failure to provide material appropriate for children occurred in the work of the religious elementary schools,

and of the Latin secondary schools, which admitted children at nine years of age. In the elementary schools the failure was evidenced in the study of the catechism and the three R's by methods which provided no opportunity for the physical activity of little children, but required silence and restraint, and which never considered whether the material was understood as long as it was learned. The failure in the first years of the secondary schools has been emphasized by Quick. The Renaissance ideal of the scholar, he said,

> led schoolmasters to attach little importance to the education of *children*. Directly their pupils were old enough for Latin grammar the schoolmasters were quite at home; but till then, the children's time seemed to them of little value, and they neither knew nor cared to know how to employ it. If the little ones could learn by heart forms of words which would afterwards "come in useful," the schoolmasters were ready to assist such learning by unsparing application of the rod, but no other learning seemed worthy even of a caning. (**3**: 19.)

Delayed maturing of religious instinct.— Problems of educational practice which grow directly out of Rousseau's demand that activities appropriate to the degree of maturity of the child should be provided are to be found in the teaching of every subject. In teaching religion, which, as we have seen, was the principal factor in the elementary school, we get the greatest contrast between Rousseau and contemporary practice. Émile was not to be instructed in religion until the period of adolescence, and then the instruction was to be of the type described above in Chapter VIII. In this connection Rousseau said:

> Let us refrain from announcing the truth to those who are not in a condition to understand it, for this is equivalent to substituting error for it. It would be much better to have no idea of the Divinity, than to have ideas which are low, fanciful, wrongful or unworthy of him. . . . The great evil of the deformed images of the Divinity which are traced in the minds of children is that they remain there as long as they live, and that when they have become men they have no other conception of God than that of their childhood. (**1**: 231.)

Delayed maturing of walking instinct.—Another example of Rousseau's attack on the tendency to expect of children achievements not suited to their age is teaching children to walk. Genetic psychology teaches us to-day that walking is a delayed instinct, appearing at a certain period in a child's life when he will learn to walk without instruction, but many mothers still persist in the practice which Rousseau described, and with similar results. He said:

> Our pedantic mania for instruction is always leading us to teach children things which they would learn much better of their own accord. . . . Is there anything more foolish than the trouble we take to teach them how to walk, as though anyone had ever been seen who, through the negligence of his nurse, was not able to walk when grown up? On the contrary, how many people have we seen who walk poorly all their lives, because they have been badly taught how to walk? (1: 43.)
>
> Almost all their defects of body and mind come from the same cause —we wish to make men before their time. (1: 91.)

Rousseau did not stop with the general proposition which we have been discussing but described in detail the psychological characteristics of children of different ages and recommended specific treatment to correspond to each characteristic. We shall take up a few of these special principles which have been most revolutionary in their influence on practice.

Physical activity essential in the maturing of children.—One of the most influential of these principles is the importance of physical activity in the maturing and education of children. In Europe during Rousseau's time infants were bound in swaddling clothes, children in the home were to be seen, not heard, and silence and sitting still were the rule of the school. Against this, Rousseau protested on physiological and psychological grounds. Concerning the current method of dressing infants, he said:

> The inaction and constraint imposed on the limbs of a child can but impede the circulation of the blood and other fluids, prevent him from growing strong, and weaken his constitution. In countries where these extravagant precautions are not taken, the men are all tall, strong, and

well proportioned; but where children are bound in swaddling clothes, the country swarms with the hump-backed, the lame, the knock-kneed, and the sickly — with all sorts of patched-up men. For fear that the body may be deformed by a free movement, we hasten to deform it by putting it in a press. We would purposely render it impotent in order to prevent it from becoming crippled! (1: 10.)

The movements of children, said Rousseau, "are needs of their constitution, which is trying to fortify itself." (1: 47.)

One of the special aspects of the general physical activity of the child, namely, the instinct of manipulation, Rousseau discussed as follows:

[In the heart of the child] activity is abundant and extends itself outward; . . . Whether he makes or unmakes matters not; it suffices that he changes the state of things and every change is an action. Though he seems to have a greater inclination to destroy, this is not through badness. The activity which forms is always slow; and as that which destroys is more rapid, it is better adapted to his vivacity. (1: 32.)

Answering an imaginary objector who is alarmed at the notion of a child spending his early years in action, but doing nothing of an academic nature, Rousseau said:

Really! Is it nothing to be happy? Is it nothing to jump, play, and run, all the day long? In no other part of his life will he be so busy. Plato, in his *Republic*, which is deemed so austere, brings up children only in festivals, games, songs, and pastimes. It might be said that he has done all when he has really taught them how to enjoy themselves; and Seneca, speaking of the ancient Roman youth, says they were always on their feet, and were never taught anything they could learn while seated. Were they of any less value for this when they reached the age of manhood? (1: 68.)

Motor activity connected with observation. — Rousseau emphasized motor activity, not only as the basis of physical growth but also as related to sense perception and general intelligence. His position in this connection resembles recent psychological discussions of the relation between motor responses and mental life. Rousseau joined together three elements or phases of education in one process, namely, sense perception, motor activity, and intellectual activity. He said:

In proportion as a sensitive being becomes active, he acquires a discernment proportional to his powers. If then you would cultivate the intelligence of your pupil, cultivate the power which it is to govern. Give his body continual exercise; make him robust and sound in order to make him wise and reasonable; let him work, and move about, and run, and shout, and be continually in motion; let him be a man in vigor and soon he will be such by force of reason. (1: 84.)

But mere running and shouting, while they provide physical exercise, are deficient from the standpoint of sense perception. "Therefore," said Rousseau, "do not exercise the child's strength alone, but call into exercise all the senses which direct it. . . . Measure, count, weigh, compare, and do not employ force until after having estimated the resistance." (1: 97.)

Sense perception fundamental in elementary education. — The preceding paragraph stated Rousseau's idea that the motor activity provided for children should include not only physical activity but also a varied experience with natural objects through first-hand contact and manipulation. The necessity of such experiences with organic and physical nature, as the source of knowledge, was another principle in Rousseau's psychology of child experience. Contemporary teachers either considered it unnecessary to give knowledge of the world of things or assumed that such knowledge could be secured through a study of words and books. So thoroughly did Rousseau oppose this practice that he advocated making the education of the child between the years of five and twelve entirely "education through experience and the senses." There had been educational reformers before Rousseau who advocated a study of things. Comenius (1592–1670) was the most important of these, but he had not succeeded in reforming school practice. But it is this phase of the Rousseau movement that first and most extensively modified the practice of elementary teaching, to some degree in the schools of Basedow, but more particularly in the "object teaching" of Pestalozzi and his followers. Rousseau's attitude on this question

is related very definitely to the psychological theories of Locke, to whom, as we have shown, he was indebted for many of his ideas. The following quotation expresses Rousseau's views:

> In any study whatever, representative signs are of no account without the idea of the things represented. The child, however [in ordinary practice], is always restricted to these signs without ever being made to comprehend any of the things which they represent. We imagine that we are teaching him a description of the earth, but we are merely teaching him to know maps. We teach him the names of cities, countries and rivers, but he conceives them as existing nowhere save on the paper where they are pointed out to him. (1: 75.)
>
> As all that enters the human understanding comes through the senses, the first reason of man is a sensuous reason; and it is this which serves as a basis for the intellectual reason. Our first teachers of philosophy are our feet, our hands and our eyes. To substitute books for all these is not to teach us to reason, but to teach us to use the reason of others; it is to teach us to believe much and never to know anything. (1: 90.)

Drawing from models, combining sense perception and motor activity.— Rousseau considered drawing important for young children because it combined the two factors of sense perception and motor activity. He said:

> I would have my pupil cultivate this art [drawing], not exactly for the art itself, but for rendering the eye accurate and the hand flexible. . . . I shall take great care, therefore, not to give him a drawing master who will give him only imitations to imitate. . . . He shall have no master but nature, and no models but objects . . . so as to become accustomed to observe bodies and their appearances correctly.
>
> I am aware that in this way he will scrawl for a long time without making anything that is recognizable; that he will be late in catching the elegance of contours [etc.] . . . but by way of compensation he will certainly contract a juster glance of the eye, a steadier hand, a knowledge of the true relations of volume and form existing in animals, plants and natural bodies, and the more ready use of the play of perspective. (1: 108.)

This long quotation serves as another illustration of Rousseau's principle of the necessity and value of beginning with the crude possibilities as they manifest themselves in children, stimulating them at their own level of possible achievement

or appreciation, and gradually building up to the matured or perfected ability, instead of trying to force an imitation of adult models at once.

Maturing of children's capacities for reasoning and memorizing. — A very common basis among teachers for maintaining that the work of the elementary school should be primarily memorizing with little or no reasoning has been, and is still, the following double assumption: (1) that children under twelve do not reason; (2) that their memories are much more plastic than those of adults. Modern genetic psychology rejects entirely the first assumption and places strict limitations on the interpretation of the second. While definitions of reasoning differ, we may say that reasoning is purposive thinking which solves or tries to solve a new problem. We do not have to go far to ascertain that the thinking of even kindergarten children includes the thoughtful solutions of problems.

Rousseau affirmed importance of children's reasoning ability. — Rousseau's discussion of the reasoning ability of children is long and vigorous, but very confusing, owing to his use of the term in several different senses. His general position, however, is contained in these two simple propositions:

1. Children do reason about the concrete things of their ordinary experience which are related to their present and obvious interests.

2. They do not reason about the abstractions of morality and theology and matters pertaining to the remote future. In these statements the word "reasoning" is used to denote thinking which involves judging or inferring or solving problems. That children do this kind of thinking Rousseau affirms in these words:

> I am very far from thinking, however, that children are incapable of any kind of reasoning. On the contrary, I see that they reason very well on whatever they know, and on whatever is related to their present and

obvious interests. But it is with respect to their knowledge that we are deceived. We give them credit for knowledge which they do not have, and make them reason on matters which they cannot comprehend. (1: 71.)

Rousseau carried out his principle of providing appropriate activities for each stage of maturity by arranging for Émile numerous opportunities for reasoning in connection with nature study, elementary physics, elementary astronomy, home geography, and practical problems in manual construction, measuring, weighing, and constructive geometry. Observation, construction, and reasoning were often provided for in the same process. Thus before he is twelve Émile "judges, foresees, and reasons on everything which is directly related to him. He does not prate but he acts. . . . As he is incessantly active, he is forced to observe many things and to know many effects." (1: 85.)

Child can reason out constructive but not ordinary deductive geometry. — A good example of Rousseau's distinction between reasoning of which the pupil is capable, and reasoning of which he is not capable, is found in his use of constructive geometry. Most children under twelve are not capable of reasoning out the propositions in a deductive geometry of the Euclidean type, but they will be able to do the kind of reasoning required in the following practice which Rousseau proposed:

> Draw exact figures, combine them, superimpose them, and examine their relations. You will find the whole of elementary geometry by advancing from one observation to another, without the need of definitions, problems, or of any other form of demonstration than simple superposition. (1: 110.)
>
> For my pupil, geometry is but the art of making good use of the rule and compass, and we ought not to confound it with drawing, where he will employ neither of these instruments. (1: 111.)

Other illustrations of the use of children's reasoning capacities by Rousseau will be discussed in a later paragraph on the study of the natural sciences.

Premature memorizing of words spoils child's judgment. — Rousseau not only believed that children were capable of reasoning but he also believed that the premature memorizing of words before they were understood formed in the child's mind wrong connections and bad habits which subsequent education would not be able to repair. His denunciation of the current practice of cramming children's memories is one of the most telling arguments in the "Émile." It was very influential, particularly with Pestalozzi, although the latter was not consistent in its application and soon set children to memorizing lists of words. Rousseau said:

> The apparent facility with which children learn is the cause of their ruin. We do not see that this very facility is proof that they are learning nothing. Their smooth and polished brain reflects like a mirror the objects that are presented to it; but nothing remains, nothing penetrates it. The child retains words, but ideas are reflected. Those who hear these words understand them, but the child who utters them does not. . . . (1: 69.)
>
> Of what good is it to inscribe in their heads a catalogue of signs which represent nothing to them? . . . It is with the first word which a child accepts without caring for its meaning, and with the first thing he learns on the authority of others without seeing its utility for himself, that he begins to sacrifice his judgment; and he will have a long time to shine in the eyes of fools before he can repair such a loss. (1: 78.)
>
> No; if nature gives to a child's brain that plasticity which renders it capable of receiving all sorts of impressions, it is not for the purpose of engraving on it the names of kings, dates, terms in heraldry, astronomy and geography, and all those words without any meaning for his age, and without any utility for any age whatever, with which his sad and barren infancy is harassed; but it is in order that all the ideas which he can conceive and which are useful to him . . . may be traced there. . . . (1: 79.)

A natural corollary of Rousseau's principle that the mere memorizing of words is a useless and harmful activity is that learning to read is relatively unimportant for little children. "Reading is the scourge of infancy," he said, and maintained that he did not care if Émile should not learn to read before twelve years of age.

Training in scientific investigation of first importance. — Rousseau considered the study of natural phenomena the most important part of intellectual education. He drew a sharp distinction, however, between (1) learning the facts of natural science and (2) training in actual inquiry and investigation. Studying what some one else has said about natural phenomena may be just as much mere words to the child as what some one else has said about history or religion. Hence actual observation of objects and experimentation should constitute the work of instruction in science. Accordingly Rousseau said, "In general never substitute the sign for the thing itself, save when it is impossible to show the thing, for the sign absorbs the attention of the child and makes him forget the thing represented." (**1**: 141.)

To discover, not merely to learn scientific facts. — The processes of investigation and inquiry to be carried on by children were emphasized in these words:

> Make your pupil attentive to natural phenomena and you will soon make him curious; but in order to nourish his curiosity never be in haste to satisfy it. Ask questions that are within his comprehension, and leave him to resolve them. Let him know nothing because you have told it to him, but because he has comprehended it himself; he is not to learn science, but to discover it. If you ever substitute in his mind authority for reason, he will no longer reason. (**1**: 137.)

By this method of allowing time for children to experiment, inquire, and solve their own problems, not much can be taught. Hence Rousseau says, "Always recollect that the spirit of my system is not to teach the child many things, but never to allow anything to enter his mind save ideas which are accurate and clear." (**1**: 143.)

To cultivate an abiding interest in science. — This method of teaching science will not only train him in habits of thinking but will also form an abiding interest in the subject, a point which was emphasized fifty years later by Herbart. Hence Rousseau says:

It is not proposed to teach him the sciences but to give him a taste for them, and methods for learning them, when this taste shall be better developed. Without doubt this is the fundamental principle of all good education. (1: 144.)

Use psychological not logical order of topics. — In order to use materials and problems which appeal to children, Rousseau recommends that the order of selection of topics be psychological rather than logical, as follows:

There is a chain of general truths by which all the sciences hold to common principles and are developed in logical succession. This chain is the method of the philosophers; but in this place we are not at all concerned with it. There is a totally different one, by means of which each individual object brings forth another, and always points out the one which follows it. This order, which through a continual curiosity stimulates the attention required of us, is the one which most men follow, and especially the one required by children. . . . In your search for the laws of nature, always begin with the most common and most obvious phenomena. (1: 145.)

Child to construct own simple apparatus. — A similar principle should apply in the selection of apparatus, using simple machines that the child can construct. Consequently Rousseau says:

I wish we might make all our own apparatus; and I would not begin by making the instrument before the experiment; but after having caught a glimpse of the experiment, as by hazard, I would invent, little by little, the instrument which is to verify it. I prefer that our instruments should be less perfect and accurate, and that we should have more exact ideas of what they ought to be, and of the operations which ought to result from them. For my lesson in statics, instead of hunting for balances, I put a stick crosswise on the back of a chair and measure the length of the two parts of the stick in equilibrium. (1: 151.)

Summary of principles of science instruction. — Such are the general principles of science instruction according to Rousseau; namely, (1) the child to discover science, not merely to learn facts; (2) to develop a taste for science and a command of its methods instead of learning a great deal; (3) to begin with the common phenomena from his

experience; (4) to follow a psychological rather than a logical order; and (5) to construct his own simple apparatus.

Some of the advantages of these methods of studying science are summed up by Rousseau in these words:

> The most obvious advantage of these slow and laborious investigations is to maintain, in the midst of speculative studies, the body in activity, the limbs in their flexibility, and the ceaseless training of the hands to labor and to employments useful to man. (1: 152.)

Home geography as an example of science instruction.— Examples of Rousseau's application of these principles may be taken from the teaching of geography and physics. Émile's study of geography was to begin as home geography, as follows:

> His first two starting points in geography will be the city where he lives and the country-seat of his father. After these will come the intermediate places, then the neighboring rivers, and lastly the observation of the sun and the manner of finding one's way. This is the point of reunion. Let him make for himself a map of all this. This map will be very simple, and composed, at first, of only two objects; but to these he will gradually add the others as he ascertains or estimates their distance and position. . . . It is not proposed that he should know the exact topography of the country, but the means of gaining this knowledge for himself. It is of little importance for him to carry maps in his head, provided he has a clear conception of what they represent, and a definite idea of the art which serves for constructing them. (1: 142.)

Elementary physics. — Émile's education in physics included work with the simple balance mentioned above; friction experiments with amber, glass, and wax, as an introduction to a study of magnetism; an introduction to the study of compression and expansion of air by experiments with an inverted glass over a basin of water; and other simple observations.

Influence of emphasis on science, especially home geography. — Geography was the only phase of elementary science that received much recognition in elementary schools before

the second half of the nineteenth century; hence Rousseau's influence was largely limited to this subject. But in the teaching of home geography his methods were copied almost exactly by Salzmann and Pestalozzi and, partially through the influence of these men on the great German geographer Ritter, became the generally accepted methods in this subject. The general principles of science instruction as formulated by Rousseau have only recently found general application in the work in physics in high schools and in the nature study of elementary schools.

Sense perception, motor activity, and reasoning separated by Rousseau's followers.—Unfortunately the elements which Rousseau had combined in one process, namely, sense perception, motor activity, and the reasoned solution of problems, were generally separated and cultivated independently in subsequent practice. Thus sense perception developed into the passive or static description of objects, the "object teaching" of Pestalozzi; motor activity, as provided for in manual training, was often merely making a series of mechanical exercises, imitating models, involving no emphasis on a study of the qualities of materials or on a reasoning out of practical problems; and science instruction was for a long time mere bookwork, involving some abstract problems, but little contact with materials or construction of apparatus.

Present interest, curiosity, and utility furnish motives for study. — The vogue of the modern doctrine of interest — that the way to get children to accomplish the work of the school is by having it appeal to their interest — is due in a considerable degree to its emphasis by Rousseau.

The following quotations are examples of his emphasis upon this factor in the "Émile":

> Present interest is the grand motive power, the only one which leads with certainty to great results. . . . A great ado has been made about finding the best methods of teaching children to read. . . . A surer

means than all of these, and the one which is always forgotten, is the desire to learn. Give the child this desire, and you may lay aside your cabinets and dice. Every method will be a good one. (1: 82.)

There are a thousand ways of interesting them in measuring, ascertaining, and estimating distances. Here is a very tall cherry tree; how shall we proceed in order to pick cherries from it? Will the ladder in the barn answer the purpose? . . . I would make a swing between these two trees; will a rope twelve feet long answer the purpose? (1: 101.)

Curiosity is another motive to be used in teaching. Rousseau would arouse curiosity by confronting the child with questions within the range of his understanding, for which he was to seek the answer. Curiosity properly directed, he said, was another "great motive power of education."

A third motive is the child's appreciation of the utility of what he is studying, particularly after twelve years of age. Hence Rousseau said:

As soon as we have succeeded in giving our pupil an idea of the word *useful*, we have another strong hold for governing him; for this word makes a strong impression on him, provided he has only an idea of it in proportion to his age, and already sees how it is related to his actual welfare. (1: 156.)

"Robinson Crusoe" to furnish imaginary practical problems. — One of the most influential of Rousseau's detailed suggestions was his idea of using the story of "Robinson Crusoe" as a source of imaginary practical and scientific problems which children are to solve. His immediate followers in Germany shared his enthusiasm for "Robinson"; the present-day Herbartians in Germany use it as the core of scientific studies in the second grade, almost exactly as he suggested; and its use in a similar way is common in America. Rousseau used it as a means of "inventing a situation where all the natural needs of man are exhibited in a manner obvious to the mind of a child, and where the means of providing for these same needs are successively developed with the same facility." (1: 162.)

This book [Rousseau said] shall be the first which my Émile shall read; for a long time it will of itself constitute his whole library, and always hold a distinguished place in it. It shall be the text on which all our conversations on the natural sciences will serve merely as a commentary. (1: 163.)

Advocated industrial approach to the study of social relations. — Rousseau underestimated the ability of children to understand social relations, but his suggestions as to the best basis of approaching the study of such relations have been followed somewhat by subsequent reformers, and have recently been given special emphasis in America by Dewey. The proper basis according to Rousseau is a study of industries, especially the division of labor and the exchange of commodities. He said:

Your greatest anxiety ought to be to divert the mind of your pupil from all the notions of social relations which are not within his comprehension; but when the relationships of knowledge compel you to show him the mutual dependence of men, instead of showing it to him on its moral side, first turn his attention to industry and the mechanic arts which make men useful to one another. In conducting him from shop to shop never suffer him to see any labor without putting his own hand to the work, nor to go away without perfectly knowing the reason of all that is done there. (1: 165.)

Thus Émile began with a study of such a simple industrial situation as was represented by Robinson Crusoe making all his own things. He proceeded next to a consideration of a small society involving a small amount of division of labor and exchange of products, and then to a study of these same factors in more complicated societies. Industrial operations and industrial products were to furnish the centers for a great variety of problems. Thus Émile learned a great deal about social life as it centered in industry. His training included also the mastery of a single trade, partly in order that he might be able to make his living by it if necessary, partly to overcome any social prejudice against workers, and partly for other educational advantages. Rousseau said:

All things considered, the trade which I would rather have to be the taste of my pupil is that of cabinet maker. It is cleanly, it is useful, and it may be practiced at home; it keeps the body sufficiently exercised; it requires of the workman skill and ingenuity, and in the form of the products which utility determines, elegance and taste are not excluded. (1: 183.)

Advocated many-sided maturing and training. — Rousseau believed in an all-round education for children. This idea was phrased by his followers as the "harmonious development of all the faculties," and as such had great vogue. Rousseau argued for such training from various standpoints: (1) That the general tendency of civilization is to narrow an individual through the specialization resulting from the division of labor. Education should correct this. (2) A specialized education, which fits the individual for only one kind of career, does not train him to adapt himself to changes in his fortunes. (3) A many-sided education is necessary in order to discover what the student's peculiar talents are.

Opposed the craze for examinable results. — The results of the kind of education that Rousseau outlined cannot be as easily demonstrated by examination as the results of learning words and facts. Rousseau expressed this disadvantage in these words:

A teacher thinks of his own interest rather than that of his pupil. He endeavors to prove that he does not waste his time, and that he earns the money which is paid him; and so he furnishes the child with acquisitions capable of easy display, and which can be exhibited at will. Provided it can be easily seen, it matters not whether what he learns is useful. He stores his memory with this rubbish, without discernment and without choice. When the time comes for examining the child he is made to display his wares; he brings them out and we are satisfied; then he ties up his bundle and goes his way. My pupil is not so rich; he has no bundle to display, he has nothing to show but himself. Now a child can no more be seen in a moment than a man. (1: 129.)

This craze for examinable results has always retarded the organization of education like that which Rousseau favored. Thus Pestalozzi, starting out to put Rousseau's theories into

practice, soon became so possessed of the examination idea that, as one of his subordinates said, "we all fell into a restless pushing and driving, and the individual teachers into a scramble over distinction."

Revolutionary character and validity of Rousseau's proposals. — The revolutionary nature of Rousseau's theories readily appears when we contrast them with the kind of education described in Chapters IV and VIII. The far-reaching effects of his suggestions on actual practice will be traced in the subsequent chapters. A few of his recommendations had almost immediate effect, while others have only recently been carried out. Many of those given in the list below are now accepted as valid by scientific students of education, who base their beliefs on experimental psychology.

Immediate influence of "Émile" greatest in Germany.— The immediate influence of the "Émile" on educational theory and practice was greatest in Switzerland and Germany. In Germany the general enthusiasm created by the "Émile" was taken advantage of by Basedow and Salzmann to organize experimental and model schools along the lines suggested by Locke and Rousseau. In Switzerland Pestalozzi, directly inspired by the "Émile," labored for over fifty years to develop reformed methods, which to a considerable extent followed the lines suggested by Rousseau. Pestalozzi's labors were continued by Herbart and Froebel in Germany. Froebel's chief theoretical work, the "Education of Man," reiterates many of Rousseau's fundamental principles in almost the same words. Finally, the recent educational reforms proposed by Dewey and Colonel Parker embody some of Rousseau's theories, although not derived directly from the latter. The following summary of some of Rousseau's propositions contains after each one a hint concerning its later development by the educators mentioned above. The principles are arranged roughly in the order in which they received emphasis by theorists and affected practice at least in experimental schools.

Summary of Rousseau's principles and their emphasis by subsequent theorists. — 1. Many-sided maturing and training is the aim of education. Especially emphasized by the Pestalozzians as the "harmonious development of all the faculties"; by Herbart as "many-sided interests."

2. Education should be based on the maturing of the child's instincts and capacities. Emphasized by Pestalozzi partially, by Froebel especially.

3. Appropriate activities should be provided for each age. Emphasized by Pestalozzi, Herbart, Froebel.

4. Sense perception is fundamental in elementary education. Emphasized by Basedow; and in Pestalozzian "object teaching" especially.

5. Theological aspects of religion are not suited to children. Emphasized by Basedow and Pestalozzi.

6. Home geography should be the starting point of geography teaching. Emphasized by Pestalozzi; a direct connection existed from Rousseau through Salzmann, Pestalozzi, the great German geographer Ritter, Professor Guyot (of Princeton University), to Colonel F. W. Parker.

7. "Robinson Crusoe" should furnish the basis for scientific and practical studies. Emphasized by Basedow and assistants, and by the modern Herbartians.

8. Premature memorizing of words and symbols is pernicious and spoils the child's judgment. Emphasized by Pestalozzi at first, but his teaching soon degenerated into memorizing; also emphasized by Herbart and all later reformers.

9. Present interest and curiosity should motivate elementary instruction. Emphasized by Basedow and Herbart.

10. Physical activity is essential for healthy growth. Emphasized by Basedow, Pestalozzi, and Froebel.

11. Motor activity should be connected with observation and reasoning. Emphasized by Basedow; by Pestalozzi to a limited extent; by Froebel especially; and by Dewey.

12. The ability of children to reason justifies emphasis on the investigation of small problems of applied science. This principle was long neglected. Emphasized by Froebel somewhat, and recently by Dewey.

13. Drawing from models, combining sense perception and motor activity, should start with crude attempts of the child at expression. Recently emphasized by Colonel Parker and Dewey.

14. The study of social relations should be approached from the industrial standpoint. Emphasized by Basedow, Pestalozzi, and Froebel to a limited extent; special emphasis by Dewey.

BIBLIOGRAPHICAL NOTES

For a study of Rousseau's educational theory the best method is to read and reread, time and again, Rousseau's preface and the first three (or possibly four) books of the "Émile," noting, for historical purposes, Rousseau's own references to contemporary practice and to Locke and other writers. Too often instructors and students peruse the "Émile" hastily once or twice and then learn what some commentator has written. Many commentators have made an equally cursory study of the "Émile" and have discussed it from some biased ethical point of view, without relating the book to the systems of education which it reflected and in turn modified. For a discussion of Rousseau in relation to the social situation in which he moved, see Taine (No. 2 below).

1. Rousseau, J. J. *Émile.* The references in the text are to the Appleton edition, translated by Payne. The Heath edition (paper, 25 cents; cloth, 90 cents) is almost as good for students. The edition in Everyman's Library is the only complete edition in English.

2. Taine, H. A. *The Ancient Régime.* (Henry Holt and Company, 1896.) An admirable analytical table of contents and a complete index make it easy to locate discussions of Rousseau and related topics.

Also referred to in chapter. — 3. Quick, R. H. *Educational Reformers.* (Appleton, revised edition.)

CHAPTER X

SECULARIZING[1] AND NATIONALIZING TENDENCIES IN PRUSSIAN SCHOOLS IN THE EIGHTEENTH CENTURY

Main points of the chapter. — 1. The influence of Rousseau's "Émile," combined with the enlightened measures of the Prussian kings, started the secularization of Prussian education in the eighteenth century.

2. The leading theoretical agitator in favor of secularized schools was Basedow (1723–1790), a fanatical exponent of the theories of Locke and Rousseau.

3. These theories were successfully applied for over a century in the private school of Salzmann (1744–1811), opened at Schnepfenthal in 1784.

4. Basedow's theories were also successfully applied in rural schools for peasant children by Baron von Rochow (1734–1805) about 1772, as a means of relieving social distress among the peasants which resulted from ignorance and stupidity.

5. Rochow advocated the organization of a national system of schools patterned after his model rural schools.

6. The Prussian kings had been actively endeavoring to organize effective rural elementary schools from the beginning of the eighteenth century.

7. The endeavors of these enlightened monarchs were only partially successful, however, owing to the opposition of ignorant and selfish public opinion.

8. By the end of the century the legal character of the schools as essentially state institutions, subject to state control in every respect, was established in the fundamental Prussian legal code.

[1] The term "secular schools" is used in this book roughly to designate schools in which the primary or fundamental control is in the hands of the state or the city or some other lay authority, and in which training for participation in the various lay activities of life plays a large part. Hence, at the end of the eighteenth century, since the Prussian schools were legally defined and controlled as state institutions, they were fundamentally secular, even though the clergy were still used as school directors subordinate to the state. Moreover, religious instruction may be permitted in a school and yet it may be called a "secular school" if its aims and curriculum are *predominantly* secular or nonreligious. See quotation from Paulsen, p. 218.

9. The king's minister, Zedlitz, an enthusiastic champion of the ideas and experiments of Basedow and Rochow, was one of the influential factors in these official developments.

10. A unique feature of the final result in Prussia was that the control of the schools was secularized without the elimination of religious instruction.

Secular interests focused on educational reform by Rousseau's "Émile." — The publication of Rousseau's "Émile" (1762) brought to a focus in Germany strivings for educational reform which, in half a century, resulted in the establishment of the first modern, secular, state school system of the *larger* European states, namely, that of Prussia. The "Émile" did not create these strivings, but it gave the additional inspiration and stimulus necessary to arouse effective action. The typical leaders in this reform were a fanatical educational theorist (Basedow); an enthusiastic, sane, practical experimenter (Salzmann); a kind-hearted, efficient nobleman, friend of the unhappy peasants on his estates (Rochow); a broad-minded, intelligent, progressive, benevolent monarch (Frederick the Great); and his patriotic minister (Zedlitz).

Agitation for nonsectarian, national education: Basedow. — Johann Bernhard Basedow (1723–1790), the leading agitator in this movement, was a relatively mediocre thinker; but, moved by fanatical opposition to the narrow-minded sectarianism which prevailed in German thought and education, he succeeded in uniting the various lines of secularizing interests which we have studied, by an appeal to public-spirited philanthropists to contribute funds which would furnish the means of opening and conducting schools on a reformed basis.

The same kind of attack as was made by Voltaire and Rousseau in France on the insincerity, formalism, and other evils of the narrow sectarian religious spirit which prevailed, was carried on in Germany by a number of famous university professors. Chief among these was Christian Wolff, professor at the University of Halle in Prussia from 1707 to 1723 and from 1740 to 1754. Wolff came to Halle as professor of

mathematics, but later added physics and philosophy to the subjects which he taught. Contrary to the general practice of lecturing in Latin, he lectured in German. Owing to this fact and to his skill in exposition he enjoyed great popularity. He maintained that theology should be based on reason in the same way as science and mathematics. Consequently he became involved in controversies with his orthodox, bigoted colleagues. The latter complained to the Prussian king, Frederick William I, and Wolff was banished from the country on the ground that his teaching was atheistic. His banishment, however, simply served to make his philosophy better known and more popular. His earlier works were written in German instead of Latin, and this made them generally known even to the nonprofessional classes. In 1740, when Frederick the Great came to the throne, Wolff was recalled to the University of Halle.

Basedow was one of the minor combatants in this clash between the orthodox and reform religious forces. As professor in a Danish academy he delivered lectures on theology. His lectures and certain publications in which he maintained a sort of natural religion and combated definitely many of the sectarian beliefs involved him in controversies with his colleagues and the public authorities. In the chief cities — Hamburg, Lübeck, and Altona—his writings were condemned in 1764 as containing religious beliefs contrary to the official catechism.

Appeal for subscriptions to provide secular education.— Tiring of religious controversy, and taking advantage of the interest in education which the appearance of the "Émile" had created, Basedow issued in 1768 an "Address to Philanthropists and Men of Property on Schools and Studies and their Influence on the Public Weal." In this address he appealed for funds to enable him to prepare textbooks and organize a school which would provide a kind of education quite different from that given in the contemporary schools,which were dominated by the orthodox clergy. There were two striking suggestions

in this appeal; namely, (1) that the schools should be open to children of all religions, that is, should be nonsectarian; (2) that a National Council of Education should be established which should have charge of all public instruction. In addition to these points the appeal advocated a type of education including reform proposals taken from many sources — from Locke, that education should be practical and playful; from Comenius, that it should be based on a study of pictures; from Locke and Rousseau, that it should include a large amount of physical exercise, etc.

Success of the appeal. The first experimental Philanthropinum. — The appeal met with unprecedented success, and subscriptions flowed in from Protestants, Catholics, and Jews, from lodges of Freemasons, from the noble, the wealthy, and, often the poor of all countries, who were interested primarily in the possibility of an education which would be free from the restriction of sectarian narrowness. With the aid of these funds Basedow published a book on method and a manual of information for use in the schools, which was accompanied by a volume containing one hundred engraved pictures illustrative of the scientific and practical subjects discussed in the manual. These books enjoyed an astounding and flattering success and were widely praised. In 1774 Basedow opened his model school, the Philanthropinum, at Dessau. This was never very large or very successful, owing to Basedow's incompetence, vicious habits, and inability to get on with his assistants.

Philanthropinums became an educational fad. — The popularity of Basedow's publications resulted in a fad in Germany for the establishment of Philanthropinums. In the large cities advertising signs stating "Here is a Philanthropinum" (*Allhier ist ein Philanthropinum*) were common. Many of these were ridiculous frauds and were appropriately satirized by contemporary writers. On the other hand, some of these schools in France and Switzerland, as well as in Germany, were serious and successful attempts to carry out

Basedow's plans, and they continued their intelligent experimentation down to the time of the influence of Pestalozzi.

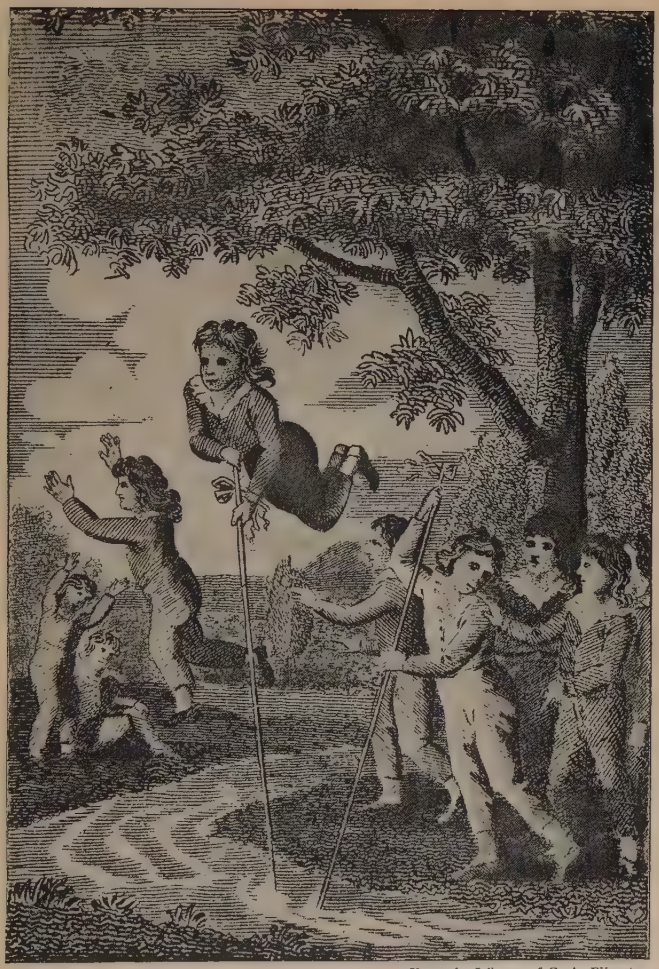
A model secular school for children of means: Salzmann.— The most successful of these schools conducted on Basedow's plans was that of Christian Salzmann (1744–1811), who had been employed by Basedow for a short time. As he could not get along with Basedow, Salzmann decided to establish a school of his own, and after careful investigation chose a site at Schnepfenthal in Saxe-Gotha, where he enjoyed the sympathetic assistance of the reigning family. He secured an ideal location for his school, on a farm near the Thuringian forest, in a region with a great variety of physiographic features, including mountains, valleys and plains, lakes, and other possibilities for the study of nature and art.

The school was opened in 1784, and the first pupil was Carl Ritter, who later became the founder of modern geography. Salzmann restricted the number of pupils, generally below sixty, in order to maintain the spirit of family life. The pupils arose with the sun, spent a few hours in agricultural work, gardening, or tending domestic animals, had morning song in the chapel, breakfasted, spent about eight hours of the day in study, at least one in gymnastics, and several in recreation.

Principles of Rousseau successfully followed. — In addition to providing a certain amount of the traditional school work, many of the most important recommendations of Locke and Rousseau were carried out by Salzmann. Among these innovations were the following:

1. *Much physical training.* — A large amount of physical training, including swimming, skating, etc., was provided. Johann Christoph Friedrich Guts Muths (1759–1839), "the grandfather of German gymnastics," was instructor at the school for many years.

2. *Nature study and lessons on things.* — The younger children spent three hours a day in the study of natural history and "lessons on things." The instructor said, "Every



From the Library of G. A. Plimpton

SALZMANN'S SYSTEM OF GYMNASTIC TRAINING

An illustration from C. G. Salzmann's "Gymnastics for Youth; or a Practical Guide to Healthful and Amusing Exercises for the Use of Schools. An Essay toward the Necessary Improvement of Education chiefly as it relates to the Body." (A translation printed by William Duane, Philadelphia, 1802. The original German probably appeared in 1793)

day I go with my children into my scientific laboratory and seek what is most worth studying. My laboratory is nature herself."

3. *School gardening and manual training.* — Each child had his own garden plot for which he was responsible, thus receiving training in practical agriculture. In his plan for such a school Salzmann announced that he would have workshops for manual training, but it is not clear from the accounts that I have consulted that these were provided in actual practice.

4. *Many organized excursions.* — Excursions through the surrounding country were very common. Sometimes these were several days in length. On such occasions the pupils were organized as militia into companies with officers. The cavalry went on ahead to prepare quarters, then followed the baggage wagons, and finally came the infantry. The objective point was always of special geographical, industrial, historical, or scenic interest. On their return each pupil had to write a description of the excursion, in which he told about places passed, adventures, plants, animals and minerals, industries and persons that he had noted. Local history was also emphasized. These descriptions were reviewed and corrected by the teachers.

5. *Religion approached by means of moral stories and nature study.*—In the religious instruction theological aspects, such as were included in the ordinary catechism for little children, were not taught by Salzmann until adolescence. Instead, moral tales which had been very carefully selected and prepared were first told the children and discussed with them as a means of developing ideals of worthy behavior. As the children grew older these were followed by stories from the Bible, including the life of Christ, with emphasis on his character as an ideal man. Observations and discussions of nature supplemented this moral material, and not until the child was about twelve years of age was he introduced to the mysterious phases of religion. Even then such theological problems as are involved in the atonement, etc., were eliminated.

Prospered for over a century. — These phases of the work, namely, physical training, natural history, object teaching, school gardening, manual training, excursions, and nontheological religious training, show how thoroughly the idea of a secular education adapted to the understanding and needs of children had been carried out in practice by Salzmann. The institution prospered under his management until his death in 1811, after which it was continued in successful operation by his descendants, and celebrated its one hundredth anniversary in 1884, an unusual example of an experimental school of long and happy life, surviving the founder. It served as a model of the possibilities of a better education, anticipating in successful practice most of the reforms of Pestalozzi.

Secular schools for peasant children: Rochow.—The secular schools of Basedow and Salzmann were intended primarily as boarding schools for children of means. But it was not long before the reforms which they embodied were attempted to some extent in the ordinary elementary schools or Volksschulen. The first experiment in this direction was tried by Baron von Rochow (1734–1805), in schools which he established for the children of the peasants living on his estates in Prussia.

Distress of peasants to be relieved by education. — He had been an officer in the royal Prussian guard, but had retired on account of injuries and devoted his time to the efficient management of his country estates. He pitied the unfortunate peasants who often suffered from failure of crops, from pestilence, disease, and starvation. This was due in a considerable degree to their own stupidity, ignorance, and improvidence, which rendered them incapable of profiting by the assistance which Rochow offered. During a particularly bad winter it suddenly occurred to Rochow that the only way to improve conditions was by a better and more practical elementary education, which would be the basis of more intelligent methods of farming and living. He immediately determined to provide such an education, and as a first step

wrote (1772) a book intended to aid teachers in carrying out his ideas of reform. The title, "A Schoolbook for Country Children, or for Use in Village Schools," is misleading, as it was not a book for children but for teachers. Rochow had been captivated by the early publications of Basedow and reproduced many of the latter's ideas.

Famous model schools for peasant children. — The next step was to open a model school on his farm at Reckahn. As teacher he installed a young man who had lived with him as secretary and musician for six years. The school soon had over seventy pupils, and the novelty and success of the instruction attracted visitors from Germany and other countries. The Prussian government sent official investigators to examine the work. All reported very favorably. They were particularly impressed with the ease and skill with which the teacher taught lessons on things to a school of seventy-three children. These lessons were conducted by means of Socratic questions, which kept up a continual conversation between teacher and class. In all the instruction every point was made clear and significant to the children, not by wordy explanations, but by connecting it with their real experience and discussing its application in the practical affairs of their lives.

Changed social life resulting from the new education. — Similar schools were opened by Rochow on his other estates, and the influence was soon evident in the changed social life of the region. This change is described by Rochow in these words :

> To-day at Reckahn the parents have lost their bestial stupidity, thanks to the influence of the children; they believe in the physicians rather than the sayings of old women. The mortality has diminished on all my estates. Attendance at school, in summer as well as in winter, is now one of the things that the parents most prize, and often they thank me with tears in their eyes.

To assist in the maintenance of similar schools in other parts of Germany, Rochow prepared two popular reading

books, "The Peasant's Friend" (1773) and "The Children's Friend" (1776). The latter was very successful and was widely used as a textbook even as late as 1850. It consisted mainly of short instructional stories or discussions relating to agriculture, domestic affairs, and good citizenship. It also contained two rimed prayers for little children.

Christian morality and national regeneration emphasized, not theology. — Although the main emphasis was on training for practical affairs, Rochow's school was not irreligious. He provided training in Christian morality, however, instead of in theology, and criticized severely the dull memorizing of the catechism, which constituted the work of the ordinary elementary school. Consequently he aroused the opposition of the ecclesiastics, who tried in vain to discredit his work.

Rochow did not rest satisfied with the local results of his endeavors, but published in 1779 a book entitled "The Improvement of the National Character by Means of Popular Schools" (Volksschulen), in which he advocated universal education for national reasons instead of merely religious or utilitarian ones. "Without a national education," he said, "it is impossible to have a national character, and that is precisely what is lacking in Germany."

One of the most famous of the visitors to Rochow's school, a very influential German professor, wrote: "To admire and praise the worthy founder of this school is not enough either for me or for him. His work should be imitated not only in the mark of Brandenburg, but also in the whole kingdom." How the king and his minister attempted to establish such a system of national secular schools will be described in the next section.

Official steps for secularizing Prussian schools.—We will study the official secularization of the Prussian schools as the best example of the general movement for secularization of German schools, which is summarized by Paulsen in these words:

The principal innovation during this period [1650–1800] was the taking over of the elementary schools from the Church by the State, the compulsory attendance of all children at school being recognized and enforced as a civic duty. Up to the sixteenth century the elementary school was little more than an annex to the Church. At the end of the eighteenth century it was, in all German countries, no longer an ecclesiastical but a political institution. The State had assumed full control over the schools, although clergymen continued to be entrusted to a large extent with the exercise of that power in the name of the State. In the sixteenth century school attendance was regarded as a duty toward the Church, being enjoined by visitation charges and admonitions from the pulpit with varying success. At the end of the eighteenth century it was generally acknowledged that education belonged to the sphere of civic duties, which implied an obligation on the part of the community to contribute toward the maintenance of the schools, and an obligation on the part of the family, enforced if necessary by penalties, to see to the attendance of the children. (**6**: 136.)

Social reforms by Hohenzollern kings. — In order to understand the educational developments in Prussia at the end of the eighteenth century it is necessary to keep in mind that they were the culmination of endeavors of the Hohenzollern kings since the beginning of the century. In Chapter VI the despotic but benevolent and effective measures taken by these rulers for the improvement of the national life and character, and especially for the amelioration of the conditions of the poor peasants, were described. The two kings, Frederick William I (*r.* 1713–1740) and his son Frederick the Great (*r.* 1740–1786), were both intensely interested in the development of adequate elementary schools, particularly for the rural population, which constituted the largest and most unhappy part of the people. The decrees of the kings, however, were generally so far in advance of public opinion that their provisions were seldom realized completely in practice. In this respect they differed from the seventeenth-century reforms in the small duchy of Gotha, which we studied in Chapter VII.

Four important official enactments. — In the secularization of Prussian education there were four important enactments.

These were: I. The order of 1717, making school attendance compulsory wherever schools existed; II. The famous General Code of Regulations for Rural Schools, issued in 1763 — the real foundation of the Prussian elementary-school system; III. The establishment in 1787 of a special State board, the *Oberschulcollegium*, to have charge of all the schools of the kingdom; IV. The publication, in 1794, of the fundamental code of the Prussian Law (the *Allegemeine Landrecht*), in one chapter of which it was definitely affirmed that the schools and universities are state institutions.

We will now consider, in some detail, the development represented in these enactments.

I. **Compulsory attendance decreed by the king in 1717.**— The decree of 1717 by Frederick William I recognized that elementary schools were impossible under existing conditions in many rural districts, but required that where schools did exist, children should attend daily in winter, and when they could be spared from the home in summer, which should be at least once a week. The king also set actively to work to establish rural schools, giving land and money for this purpose. In a few years he brought about the establishment of more than a thousand such schools. The almost insurmountable difficulty which he encountered was the lack of educated teachers.

Apart from the detailed provisions of these acts they are significant as indicating that the king assumed that it was the business of the state to provide for elementary education instead of leaving it to local and ecclesiastical authorities.

II. **Rural schools organized by Frederick the Great; code of 1763.** — Frederick the Great continued the work of his father, the most significant of his decrees being the General Code of Regulations for Rural Schools, issued in 1763. The act is sometimes called the real foundation of the Prussian elementary-school system because so many of its features are reproduced in later enactments. The following sections are interesting:

1. All children were required to attend school from the fifth to the thirteenth or fourteenth year; or,

2. They were to attend school until they learned the principles of Christianity, could read and write well, and could pass an examination on the textbooks required by the consistory (a body of clerical and lay officers appointed by the sovereign to superintend ecclesiastical affairs).

3. If proficient in these subjects before thirteen years of age, children were permitted to stop only on receiving a proper dismissal certificate issued by the teacher, preacher, and inspector.

4. Where it was customary to employ children to look after cattle in the summer, one common cowherd was to be employed so that the children might attend school. If the community was too scattered, children were to take turns, so that each child would get to school at least three times a week.

5. Definite school hours were prescribed.

6. Unmarried young folks, beyond school age, were to attend a continuation school to be kept by the schoolmaster on Sunday.

7. Tuition fees were regulated.

8. If parents were too poor to pay, the tuition fees were to be paid from the Church or poor funds.

14. No one was permitted to teach unless examined and approved by the inspector and admitted by the preacher.

25. Village preachers were required to visit and inspect the schools twice a week, and to hold conferences with the teacher with a view to improving his methods of instruction.

26. The Lutheran superintendent and the inspector of each administrative district were to inspect all the schools under their direction at least once a year and report to the central authority.

Administration of schools still in hands of clergy.—These summarized sections from the General Code of 1763 indicate how sincere and vigorous were the king's endeavors to

improve rural elementary education. But though the authority of the state is evident, the execution of the law was still left in the hands of the Church authorities.

Effective enforcement of law opposed by public opinion. — The law could not be effectively enforced in many places, owing to the numerous difficulties. There was opposition from many teachers, who were too ignorant to be eligible under the new requirements. There was opposition from the farmers, who wished to use their children for work at home. There was opposition from the nobility, who viewed the law with alarm, maintaining that "like cattle, the more stupid the peasant, the better will he accept his fate." In spite of this strenuous opposition the king was very active in his endeavors to enforce the law, which he supplemented by additional orders intended to decrease "the great stupidity of the peasant children."

III. **Control of schools transferred from Church to national council of education, 1787.** — The third enactment in the development of the Prussian system which we have selected for discussion was the creation of the central administrative board, or *Oberschulcollegium,* to have direction of all the school affairs of the kingdom. Although this occurred in 1787, after the death of Frederick the Great, it represented the culmination of the tendencies of his reign as well as the influence of the Basedow tendencies described in the first part of this chapter.

Minister Zedlitz reiterated suggestion of Basedow. — The creation of this board was suggested by the king's minister, Zedlitz, who had been made head of the Department of Lutheran Church and School Affairs, by Frederick the Great in 1771. A similar suggestion for the creation of such a "national council of education" was contained, as we noticed, in Basedow's "Address to Philanthropists," issued in 1768. Zedlitz was an enthusiastic champion of Basedow's ideas and was especially influenced by Rochow's experiments in applying

these ideas to the improvement of rural education. Zedlitz kept up an active correspondence with Rochow and consulted with him concerning many of his own (Zedlitz's) plans for national educational reforms. In 1788 Zedlitz wrote :

> It is wrong to let the peasant grow up like an animal, having him memorize only a few things which are never explained to him. His instruction should include besides religion, reading, writing and arithmetic, also some experience with mechanics, the study of nature and dietetic rules, and some knowledge of government. Certain industrial activities like spinning and weaving should also be taught in the country schools. (**8** : 28.)

In his suggestions to the king for the establishment of the *Oberschulcollegium*, Zedlitz said that such a board, with some degree of expert permanent membership, would be much more competent to direct school affairs wisely than were the consistories of the Church under the direction of a king's minister, as was the existing arrangement. Hence the establishment of the *Oberschulcollegium* represents the transition from Church administration of the schools under state direction to expert state administration by a specialized board.

Zedlitz removed through conservative reaction of new king.— Zedlitz was made president of the new board, but he held his place under the new king for only two years. The latter was directly the opposite of Frederick the Great in his general attitude. Instead of aiming to broaden and secularize the elementary schools, he maintained that their chief function should continue to be the teaching of religion, and that he would do his best to see that they were protected from the influence of rationalism, naturalism, and deism. Owing to this reaction no further progress was made in elementary education until the reforms at the beginning of the nineteenth century, which will be described in the chapter on the Pestalozzian movement. But one other step in preparation for this later development was to be taken.

IV. Fundamental Prussian legal code (1794) defined schools as state institutions. — Under Frederick the Great was begun the codification of the fundamental Prussian civil law, known as the *Allgemeine Landrecht*. The greatest scholars and jurists of Germany were engaged in this undertaking, the results of which were not published until 1794. The twelfth chapter of the code was devoted to education. In it were formulated the culminating principles of the tendencies which had been developing during the century. Of the one hundred twenty-nine sections in this chapter the following are especially significant as showing the subordination of all schools, both public and private, to state control:

1. Schools and universities are state institutions charged with the instruction of youth in useful information and scientific knowledge.

2. Such institutions may be founded only with the knowledge and consent of the state.

9. All public schools and educational institutions are under the supervision of the state and are at all times subject to its examination and inspection.

Attendance at school not to be restricted by religious belief.—The code also recognized the equal rights of both churches, Lutheran and Catholic. While religious instruction remained an essential part of the curriculum, no one was to be kept from attending any public school on account of difference in religious belief. Moreover, children of a different religious belief from that taught in the public school which they were attending could not be required to attend the religious instruction offered.

School support to be by common contribution.— The provisions for school support were especially significant. This was made a common duty, all heads of families in a given community being required to contribute whether they had children or not, even if they differed in religious belief from that taught in the public schools.

The fundamental provisions of the code which related to education are summarized by a German authority as being:

1. Definition of the school as a state institution.
2. Equal rights to the recognized churches.
3. Compulsory school attendance.
4. School support made a matter of general contribution.

Secularization achieved without eliminating religious instruction.—The large significance of this movement for the secularization of Prussian schools can be appreciated when one remembers that the system of schools which developed from it commonly served as a model for other European and American systems during the nineteenth century. To be sure, the actual realization in Prussia of the plans of the eighteenth century was not achieved until the first quarter of the nineteenth. But the enlightened views of the eighteenth-century enthusiasts, including Basedow, Salzmann, Rochow, Zedlitz, and the Prussian kings, furnished the fundamental basis for all later development. The remarkable feature of the final result, as compared with similar results in the United States and France, is that secularization of the schools was achieved without elimination of religious instruction, which has continued to occupy a prominent place in Prussian elementary schools to the present day.

BIBLIOGRAPHICAL NOTES

Concerning Basedow, Salzmann, and Rochow. — 1. PINLOCHE, A. *La réforme de l'éducation en Allemagne au dix-huitième siècle.* (Coline, Paris, 1889.) A special history of the Basedow movement; the best reference.

Material translated from Von Raumer's *History of Education* is contained in the two following references (Nos. 2 and 3).

2. BARNARD, H. *American Journal of Education.* Vol. V, pp. 487–520, and Vol. XXVII, pp. 497–508 (for Rochow).

3. QUICK, R. H. *Educational Reformers.* (D. Appleton and Company, 1890.) Chap. xv.

Concerning Salzmann's school. — 4. GAGE, W. L. *The Life of Karl Ritter.* (Charles Scribner's Sons, 1867.) Chap. ii, pp. 16–43.

Concerning the Prussian System. — 5. NOHLE, E. History of the German School System, *Report of the United States Commissioner of Education*, 1897–1898. Vol. I, pp. 50–56. The two best accessible accounts in English are Nos. 5 and 6.

6. PAULSEN, F. *German Education, Past and Present.* (Charles Scribner's Sons, 1908.) Pp. 136–144.

7. BARNARD, H. *American Journal of Education.* Vol. XXII, pp. 861–884, and Vol. XX, pp. 335–360. Contain translations of laws, etc.

8. CLAUSNITZER, LEOPOLD. *Geschichte des preussischen Unterrichtsgesetzes, mit besonderer Berücksichtigung der Volksschule.* (Berlin, 1892.) I have found this work, with its brief interpretation of sources, the most instructive of several German works.

CHAPTER XI

SECULARIZING TENDENCIES IN ENGLISH ELEMENTARY EDUCATION

Main points of the chapter. — 1. The secularizing of English elementary schools was retarded by the power of the Established Church, by the conservative influence of the House of Lords, and by the payment of state funds to voluntary religious educational organizations.

2. The theory that education was a matter for which the family and the Church were primarily responsible continued in England down to the nineteenth century.

3. The first significant effort to provide nonsectarian elementary education on a large scale was made by the nonsectarian Lancasterian British and Foreign School Society (1808).

4. The National Society for promoting the Education of the Poor in the Principles of the Established Church (1811) was organized as a sectarian rival of the British and Foreign School Society.

5. A new sentiment in favor of secular public schools began to develop during the eighteenth century. Various social changes, including those produced by the factory system, were causes in this development.

6. The fight for secular schools, begun actively in 1807, continued without any great success until 1870. Associations in favor of secular schools, organized in the larger commercial cities, played a prominent part in the fight.

7. Three acts of the government were especially important steps in developing secular national schools. These were: (*a*) the act passed in 1833 by the House of Commons granting money for the erection of schoolhouses, thus establishing the principle of state support; (*b*) the appointment in 1839, by Queen Victoria, of a Committee of the Privy Council, to administer the funds appropriated by the House of Commons for education, thus establishing the principle of state supervision of elementary education; (*c*) the act passed by Parliament in 1870, authorizing the election of local school boards, which were empowered to levy taxes for the support of schools in which attendance might be compulsory, and no sectarian religious instruction could be permitted.

Development of secular schools in England greatly retarded. — The secularizing of the schools of England offers the greatest contrast to the secularizing of Prussian schools. In Prussia the legal secularization took place early and rapidly because it required simply the decrees of enlightened absolute monarchs. In England the legal secularization was very slow and long delayed for a number of reasons. Chief among these were the following:

1. The persistence of the theory that education was primarily the business of the family and the Church, and that the state was not responsible for it.

2. The fact that a national system of schools could not be created by the decrees of enlightened monarchs, but had to be created by the enlightened public opinion as represented in Parliament.

3. The conservative influence of the House of Lords, which aimed (*a*) to keep the poor in ignorance; and (*b*) to maintain the power of the Established Church.

4. The payment of the first state funds appropriated for elementary schools to voluntary religious educational organizations, thus creating vested private interests which later opposed the establishment of real public schools.

Inasmuch as similar reasons (excepting the third) were factors in the retardation of the development of secular public schools in the United States, we shall study briefly the process by which the English system was *partially* secularized.

Education considered a matter of family and Church monopoly. — The fact that education was considered to be legally a matter for which the state was not responsible is shown by court decisions. Thus the following decision rendered by the court in 1795 asserted the independence of the family in matters of education. It stated that "a father was bound by every social tie to give his children an education suitable to their rank, but it was a duty of imperfect obligation, and could not be enforced in a court of law." (1: 181.)

The legal monopoly of the Church in matters educational during the Middle Ages was described in Chapter II. During and following the period of the Reformation this theory continued in force, and schoolmasters in England were required to be licensed by the bishops of the Established Church. In the eighteenth century, however, this practice began to be questioned in the courts, but the prevailing opinion, as often cited in speeches in Parliament, continued to be that the Church had general control. An example of the opposite tendency is the following incident. In 1701 an elementary-school master who had been indicted for teaching school without a license from the bishop was discharged by the court on the basis that "the school was not within the Act of James I, because the act extends but to grammar schools, and this school was for writing and reading." (1 : 173.) By this decision the legal control of education by the Church was declared not to extend to elementary education. Some judges even questioned whether the bishops had jurisdiction over grammar-school masters, but the general tendency of the decisions of the eighteenth century was to affirm the control by the bishops in such cases.

Church made little provision for elementary education. — The English (Episcopal) Church, however, failed to make any adequate provision for elementary schools. In this respect it was much inferior to the Catholic Church on some parts of the Continent, where such societies as the Brethren of the Christian Schools organized very effective schools. Practically the only significant endeavor made by the English Church before the nineteenth century was in the organization in 1699 of the Society for promoting Christian Knowledge. The object of the Society is well suggested by its name — to promote Christian knowledge by erecting catechetical schools and diffusing the Scriptures and the liturgy of the Established Church. Its officers were members of this Church, and its rules were approved by the bishop. The Society stated

that part of its work was the "erecting of schools in . . . cities and the parts adjacent for the instruction of such poor children in reading, writing, and the catechism, whose parents or relatives are not able to afford them the ordinary means of education." This plan was carried out, and by 1729 the Society had opened 1658 schools, containing 34,000 children. A branch of this organization was the Society for the Propagation of the Gospel in Foreign Parts, which established schools in America.

Voluntary agencies depended on for elementary schools for the poor. — These societies are typical of the endeavors made in England during the eighteenth and early nineteenth centuries to provide elementary schools for the poor. The little children of parents who could afford to pay were educated in the home or in private dame schools, but the children of the poor received no education, or only such meager instruction as was provided in the charity schools maintained by the voluntary efforts of individuals or philanthropic societies. The most important of these voluntary agencies were (1) the Sunday schools from 1780 on; (2) the British and Foreign School Society (1808, 1814); and (3) the National Society for Promoting the Education of the Poor (1811).

Secular Sunday schools organized after 1780. — The Sunday schools, unlike those of recent years, were organized not merely for religious instruction, but to give instruction in reading and writing; hence they were largely secular in purpose. They were particularly valuable in the manufacturing districts for children and adults who were employed during the week days. Thus in Manchester, in 1834, Sunday schools were open for secular instruction five and a half hours on Sunday and two evenings in the week. Two organizations, the Society for the Support and Encouragement of Sunday Schools (1785) and the Sunday School Union (1803), were devoted to the propagation of such schools. The movement spread almost immediately to the United States.

Lancasterian, nonsectarian, British and Foreign School Society organized, 1808. — The British and Foreign School Society grew out of the efforts of Joseph Lancaster (1778–1838) to maintain monitorial schools for the instruction of poor children, beginning about 1798. In a pamphlet entitled "Improvements in Education," published in 1803, Lancaster described his plan for a society which would maintain schools and train teachers. He claimed to be actuated by no sectarian motives, and asserted that "the grand basis of Christianity is broad enough for the whole of mankind to stand upon." He realized the difficulties, however, of maintaining a national system of nonsectarian schools, saying that neither the Established Church nor the dissenters had shown themselves willing to support such a project, each fearing the other would secure some advantage.

Lancaster achieved great success in his school in London and soon had a thousand children under his instruction. His plans for an educational society were realized through the efforts of a number of Quakers, who in 1808 constituted a committee to put Lancasterian schools on a business basis. This was necessary, owing to the financial and administrative incompetence of the founder. The members of the committee were interested in the abolition of slavery, in prison reform, and other social problems as well as in education. In 1814 the committee assumed the name of the British and Foreign School Society. The efforts of Lancaster and this society were very powerful instruments in arousing public interest in the education of the poor. The king and many of the higher nobility were especially interested and contributed liberally to the support of the Lancasterian schools.

The Established Church organized a rival sectarian school society in 1811. — The prosperity of the nonsectarian British and Foreign School Society and its enjoyment of the royal patronage aroused the jealousy of certain leading members of the Established Church, but especially of Mrs. Trimmer, who

A DAME SCHOOL IN LONDON FROM 1834 TO 1870

The same dame kept school in the same basement kitchen during all these years

was an active agent of the Society for promoting Christian Knowledge. Mrs. Trimmer persuaded Dr. Andrew Bell (1753–1832), who, like Lancaster, was an organizer of monitorial methods, to become active in the organization of schools to rival those of Lancaster. The result of the efforts of Mrs. Trimmer, Bell, and other extreme sectarians was the organization in 1811 of "The National Society for promoting the Education of the Poor in the Principles of the Established Church." This society soon succeeded in absorbing some of the patronage that had formerly been given to the nonsectarian British and Foreign School Society. All the children attending the schools of the National Society were required to learn the liturgy and catechism of the Established Church and to attend its services on Sunday. This assured the sectarian results for which the society was organized.

Rivalry of two societies developed educational agitation.— These two societies became great rivals and for many years were the centers of most of the agitation for elementary education in England. The nonsectarian standards of the British and Foreign Society were usually more liberal and advanced than the standards of the National Society, but the latter maintained a position of greater power, owing to its relation to the Established Church. Both societies actively established elementary schools throughout England. These schools, however, were entirely inadequate to meet the needs of the country, but the controversy between the two societies served to keep the question of education before the public mind. The inadequacy of the schools is shown by the fact that in 1818 it was estimated that "for every child receiving education three were left entirely destitute." (**2**: 94.) In other statistical reports as late as 1830 it was shown that in Manchester 30 per cent of the children received no instruction at all, not even in Sunday schools, and in other large cities even worse conditions prevailed. (**2**: 95.)

Development of public sentiment in favor of national schools. Traditional opposition. — As noted above, a great many English people, as late as the beginning of the nineteenth century, believed that the public welfare would be served by keeping the poor in ignorance. A famous expression of this theory is the following, for which I have not been able to find a date:

> In a free nation where slaves are not allowed of, the surest wealth consists in a multitude of laborious poor; for besides that they are the never-failing nursery of fleets and armies, without them there could be no enjoyment, and no product of any country would be valuable. To make the society happy and people easy under the meanest circumstances, it is requisite that great numbers should be ignorant as well as poor. Knowledge both enlarges and multiplies our desires, and the fewer things man wishes for, the more easily his necessity may be supplied. (**2**: 46.)

This type of argument was later repeated many times during the struggle to secure state support for public schools.

New sentiment for state education expressed by great jurists.— During the last half of the eighteenth century a new sentiment began to develop, which, in direct opposition to the traditional ideas, favored (1) compulsory education, (2) education of the poor, and (3) national secular schools. Some of the most authoritative expressions of this sentiment are found in the writings of great jurists and economists, such as William Blackstone (1723–1780), Adam Smith (1723–1790), and Jeremy Bentham (1748–1832). In 1765 Blackstone, commenting on the failure of parents to educate their children, said, "The municipal laws of most countries seem to be defective in this point, by not constraining the parent to bestow a proper education upon his children." Before 1776 Adam Smith wrote, "For a very small expense the public can facilitate, can encourage, and can even impose upon almost the whole body of people the necessity of acquiring the most essential parts of education." Bentham, in his "Principles of the Penal Law," written in 1802, said:

Education is only government acting by means of the domestic magistrate. . . . But in regarding education as an indirect mode of preventing offenses it requires an essential reform. The most neglected class must become the principal object of care. The less parents are able to discharge this duty, the more necessary it is for the government to fulfil it. (1: 216.)

Social changes of eighteenth century prepared for educational reform. — A number of important social changes in the eighteenth century were factors in developing a sentiment in favor of better elementary education. In 1695 the House of Commons refused to pass a bill reëstablishing the censorship of the press, and from this time forth publications began to discuss more openly problems of religion, government, and public policy.

In 1709 the first daily newspaper was established. Pamphlets increased in number, and periodicals and magazines became common. Circulating libraries were established. Printing was extended to country towns. Debating and reading clubs were founded for the trading and working classes. The people also obtained a fresh means of influencing and controlling Parliament, for in 1769–1770 we first hear of public meetings being held for instruction in political rights, and at the end of the century the right of publishing Parliamentary debates was confirmed. (2: 242.)

Factory system established new political forces; child labor.—The most important social change, however, was the development of the factory system. This originated in the invention of power machinery, especially for the textile industries. The first step was the invention of automatic machinery for spinning and weaving (1770–1792). At first this was driven by water power, and factories developed slowly on this basis. The invention of the steam engine and its application in running textile machinery followed (1792–1830) and resulted in a rapid multiplication of textile factories.

The factory system produced practically an industrial and social revolution. In the first place, it resulted in the rapid concentration of population and the growth of new cities.

The new type of workingman population thus created became a new political force, which demanded and received recognition in legislation. In the second place, women and children were employed in the factories in large numbers under the worst possible conditions of housing and sanitation, thus creating new social problems quite different from those of the period of domestic industries and handicrafts.

Parliament regulated education of factory children, 1802. — It was these new conditions of child labor which called for the first Parliamentary or national action for compulsory education. This was an "Act for the Preservation of the Health and Morals of Apprentices and Others, employed in Cotton and Other Mills, and Cotton and Other Factories," passed by Parliament in 1802. This act included such requirements as the following: Where three or more apprentices were employed in a mill, the mill rooms should be ventilated. The rooms should be whitewashed twice a year. An apprentice should not work more than twelve hours a day, or between 9 P.M. and 6 A.M. Male and female apprentices should sleep in separate rooms. Instruction should be provided in reading, writing, and arithmetic, and in the principles of religion.

The conditions of the act seem very mild indeed, yet the next year petition after petition was presented to Parliament, both from manufacturers and workingmen, praying for the repeal of the act as injurious and oppressive to the cotton trade. Such protests indicate the low state of public opinion. While some efforts were made to enforce the act, it was generally ineffective.

Defeat of first Parliamentary bill for public schools, 1807. Agitation until 1870. — The act for the education of apprentices was for only one class of children and made no provisions for public schools. In 1807 a bill was considered in Parliament to authorize the local authorities of any township or parish to maintain schools for educating the poor. The bill passed the House of Commons but was defeated in the

House of Lords largely because, as asserted by an opponent, it departed "from the great principle of instruction in this country by taking it out of the superintendence and control of the clergy." From the defeat of this bill until 1876 there was a period of energetic agitation and education of public opinion in favor of compulsory secular education. The whole struggle was characterized by intense sectarian jealousy and bitter criticism. In the earlier stages of the agitation the nonconformists (Methodists, Congregationalists, Baptists), or dissenters from the Established Church, were in favor of a secular state system of elementary education. But most of the measures which Parliament passed were distorted by the influence of the Established Church so as to favor its schools especially. As a consequence even the dissenters became suspicious of state interference in educational affairs.

Fight for secular schools by associations in large cities. — The battle for secular schools during the middle of the century was fought primarily by associations organized in some of the new manufacturing towns such as Manchester and Birmingham. Two of these were especially influential. The first was the Lancashire Public School Association, organized in Manchester in 1847. This organization began as a committee which issued an address called "A plan for the Establishment of a General System of Secular Education in the County of Lancaster." In a few years the organization changed its name to The National Public School Association, having as its object

> to promote the establishment by law in England and Wales of a system of free schools; which, supported by local rates [taxes] and managed by local committees, specially elected for that purpose by the rate-payers, shall impart secular instruction only, leaving to parents, guardians and religious teachers the inculcation of religion. (**2**: 152.)

This movement secured the support of the leading Liberal politicians of the country, and Manchester continued to be the center of the agitation until Parliament created public-school boards in 1870.

The second public-school association, known as The League, was organized in Birmingham in 1869, as a result of the study of the educational needs of that city. The League adopted a constitution similar to that of the Manchester organization and continued a nation-wide agitation until 1876, when Parliament passed an act instituting general compulsory education.

Parliamentary acts in the direction of secular schools, 1833, 1839, 1870. — The important Parliamentary acts by which a national secular system of schools, partially supported by local taxation, was gradually approximated, are the following:

Funds voted for the erection of schoolhouses (1833). — In 1833 the House of Commons voted £20,000 to be spent by the two voluntary societies (British and Foreign and the National) in the erection of schoolhouses. This act is significant in establishing the principle of national aid to elementary education. It did not require the assent of the House of Lords inasmuch as the House of Commons is supreme in matters of public expenditure. It was pernicious as it initiated the practice of paying public funds to private corporations, thus creating vested interests which later opposed the development of purely public schools. After 1833 this grant was made annually. After 1846 government funds were granted for the maintenance of schools as well as for the erection of schoolhouses.

State supervision of elementary education begun (1839). — In 1839 Queen Victoria appointed a committee of the privy council on education, to administer the expenditure of the money voted by the House of Commons. This was another step which did not require the assent of the conservative, obstructionist House of Lords. The latter, however, protested to the queen, but without avail. This act is significant in establishing state supervision of elementary education, and thus represents a definite weakening of the ecclesiastical control. The Committee of the Council decided that any school,

to share in the state funds, should be continually open to inspection by the government, and should come up to the standard which it set.

Parliament authorized local school boards and school taxes (1870). — Up to 1870 the principle upon which the government had proceeded was that of state aid to voluntary educational agencies. In 1870 we find the culmination of the efforts of the secular-school agitation, in the establishment of elementary schools on the new principle of local public control and public support. The bill passed by Parliament in 1870 provided that in cases where the national department of education considered that the accommodations in existing elementary schools in any locality were insufficient, it might order the election of a local school board. Such school boards were required to maintain sufficient elementary-school accommodations and were empowered to levy local taxes for this purpose.

The schools were not permitted to be free, however, all children (except indigents) being required to pay fees. No religious catechism or religious formulary distinctive of any particular denomination was to be taught in the board schools. Any school board could make by-laws requiring the attendance of all children between the ages of five and thirteen, but no provision was made for compulsory attendance in districts where no school board existed.

By the law of 1870 "three principles were carried into effect for the first time in English public education — a compulsory local rate (tax), a representative local authority, and the compulsory attendance of children at school."

Another phase of secularization besides the elimination of sectarian instruction from board schools, which was contained in the law of 1870, related to reading the Bible in the schools.

Until 1870 no public elementary school which did not include the reading of the Bible daily among the subjects taught, could earn a government grant; now, although the Bible was habitually read in nearly all board schools, a purely secular school might earn the grant without any question arising.

On the other hand, the voluntary schools continued to give denominational instruction while enjoying government funds. On this account or because of other similar survivals the struggle for the complete secularization of schools sharing public funds has continued down to the present day.

BIBLIOGRAPHICAL NOTES

1. MONTMORENCY, J. E. G. DE. *State Intervention in English Education, a Short History from the Earliest Times down to 1833.* (Cambridge University Press, The Macmillan Company, 1903.)

1 *a*. MONTMORENCY, J. E. G. DE. *Progress of Education in England* (to 1904). (Knight & Company, London, 1904.) Continues No. 1. For a brief study of the secularizing tendencies in English schools, these are the best accessible books (1 and 1 *a*).

2. ADAMS, F. *History of the Elementary School Contest in England.* (Chapman and Hall, London, 1882.) As good as No. 1, but harder to secure.

3. BALFOUR, G. *The Educational Systems of Great Britain and Ireland.* (Clarendon Press, Oxford.) Chap. i. An authoritative and easily obtained account of the actual governmental enactments.

4. CUBBERLY, E. P. *Syllabus of Lectures in the History of Education.* (The Macmillan Company, second edition, 1904.) Chap. xl, pp. 315–329. A most helpful outline of the whole development, with dates and tables.

5. GREENOUGH, J. C. *Evolution of the Elementary Schools of Great Britain.* (D. Appleton and Company, 1903.) Chaps. i and ii. Brief sketch of nineteenth-century development.

6. HOLMAN, H. *English National Education.* (London, 1898.)

7. MONROE, P. *Cyclopedia of Education.* (The Macmillan Company, now being issued, 1912.) Contains numerous valuable articles on English education by Montmorency, Leach, and Watson.

CHAPTER XII

DEVELOPMENT OF AMERICAN SECULAR SCHOOL SYSTEMS

Main points of the chapter. — 1. The development of American secular school systems involved some of the same factors as we have studied in the case of Prussia and England.

2. Four systems will be described as typical of the general development in America. These systems are the following: (1) New York City, where free schools were first organized on a large scale by a private philanthropic society; (2) Pennsylvania, where they developed first as pauper schools; (3) Massachusetts, where the degeneration to the district-school system and the regeneration of the town system were prominent; (4) Indiana, where a campaign of thirty years was necessary to realize the requirements of the state constitution for public schools free to all.

3. The development of free public schools was retarded by sectarian religious jealousies; by payment of public funds to private schools; by the conception of free schools as pauper schools; by false standards of democracy, including local self-government by very small units.

4. The Lancasterian system of monitorial instruction, on account of its cheapness, was an important influence in developing sentiment in favor of tax-supported schools.

New York City, Pennsylvania, Massachusetts, and Indiana are typical. — The two preceding chapters described the secularization, by radically different processes, of the elementary schools of two European countries. In the case of Prussia the process of secularization was the outcome primarily of the energetic efforts of a line of enlightened absolute monarchs, whose acts were much in advance of general public opinion. In democratic England the process of secularization depended on the slow development of public opinion in conflict with the vested interests of voluntary religious educational societies, and was greatly retarded by intense sectarian jealousies.

In the United States we find some of the same elements that entered into Prussian and English situations appearing as partial factors in the development of state and city systems of public schools. We will take up for consideration four examples of American development, which will serve as types and help us to appreciate the various factors that entered into the organization of American public-school systems. These four examples may be briefly characterized as follows:

New York City shows a development somewhat similar to that in England, inasmuch as the provisions for elementary education remained for a long time (until 1842) in the form of schools maintained by churches, private interests, and voluntary philanthropic societies. The vested interests and sectarian jealousies resulting from the fact that these societies shared in the public funds both retarded and stimulated the development of secular schools controlled by city authorities.

In Pennsylvania for a long time (practically until 1834) elementary education was generally provided for in church, private, and voluntary "neighborhood" schools. The first state provision (1802) took the form of payment of the tuition of poor children only, thus establishing the idea of public schools as pauper schools. This was followed by a long and bitter struggle in the state legislature for free public schools for all children. These were authorized in 1834.

In both New York City and Pennsylvania the Lancasterian monitorial system, as a cheap means of instruction, was influential in developing a sentiment in favor of public schools and improved instruction.

Massachusetts, with a state system of public schools existing from 1647, will serve as an example of degeneration from a relatively liberal provision for public elementary education to a relatively poor provision. This degeneration took place as the management of school affairs was gradually delegated to very small local units known as school districts. In the early nineteenth century the correction of the deplorable

conditions which had developed was begun by what is known as the Common School Revival, in which Horace Mann was the most prominent leader.

Indiana will be discussed as an example of one of the younger states, in which the state constitution (1816) made provision for developing public elementary schools, but where a long legislative and legal struggle was necessary to secure the laws providing for the support of the schools by local taxation.

New York City. Schools developed by voluntary philanthropic societies.—As stated above, the history of the elementary schools of New York City is similar in many respects to that of English elementary schools. New York as a colony was a royal province administered by an English governor, and consequently, until the American Revolution its political and educational institutions were similar to those of England. The largest general provision made for elementary schools was by the Society for the Propagation of the Gospel in Foreign Parts, which, as we have seen, was organized in England in 1701 practically as the foreign-mission branch of the Society for promoting Christian Knowledge. The former society maintained many elementary schools in New York.

After the Revolution the following important actions were taken by the New York state legislature before 1805. In 1789 a law was passed intended to encourage the maintenance of elementary schools. It set apart certain lands for school purposes. In 1795 Governor George Clinton urged the establishment of common schools throughout the state. The same year a law was passed appropriating annually for five years £20,000, to be paid to county treasurers in proportion to the population. Local authorities were to raise by tax one half the amount of the state appropriation, and the whole was to be used to pay teachers' salaries.

No public schools in New York City in 1805.—These state provisions had little effect on the schools of New York City by 1805. The city at that time had a population of 75,000,

with one hundred forty-one teachers giving instruction in private and church schools. Most of the schools were very small, an attendance of seventy-five being considerable. Individual churches very commonly maintained schools, including "charity schools," which were usually intended for the poor children of their own congregations. These scattered provisions were entirely inadequate to provide for the educational needs of such a large city.

Free School Society incorporated, 1805. — In view of this fact a small body of private individuals presented a memorial to the legislature asking for the incorporation of "The Society for establishing a Free School in the City of New York" for children "who do not belong to, or are not provided for by, any religious society." The request was granted.

The society secured aid from state and city. — The society opened its first school in 1806, using the Lancasterian monitorial system. In 1807, on petition from the society, the state legislature gave $4000 for the erection of a building for the education of poor children, and $1000 annually for general expenses. In 1808 the city granted the society a lot valued at $10,000, and in 1809 a building was erected which accommodated five hundred children in one room for instruction by the monitorial system. In 1810 $4000 more was received from the state.

Shared annually in state common-school fund. — In 1815 the society received over $3000 from the first apportionment of the state common-school fund. This fund had been created by the legislature in 1805 by appropriating to the support of common schools the proceeds from five hundred thousand acres of public lands, as soon as the annual interest amounted to $50,000. The society gradually established more and more schools, as they were able to meet the needs of different parts of the city.

Combined pay and free system a failure. — In 1826 the society secured a new charter from the state, changing its

name from the Free School Society to the Public School Society of New York, and authorizing it to require a "moderate compensation" from children who were able to pay. This proved to be a serious mistake, however. There was an immediate falling off in attendance because many parents were "too poor to pay and too proud to confess their poverty." In 1832 this pay system was abolished and the schools again made free to all.

Conflicts with sectarian interests develop public schools. — The facts presented above give a general idea of the early development of the society and its use of public funds and property secured from the state and the city. Up to 1820 the society prospered and experienced little friction or opposition in its enterprises.

From about 1820 its history includes a number of serious conflicts with religious educational agencies. These conflicts involved sectarian jealousies and resulted in the gradual establishment of public schools under the control of city authorities. We will now outline these sectarian conflicts and the parallel development of control by the city authorities.

Baptist church shared state funds for school building. — In 1820 the Bethel Baptist Church secured some of the funds of the state appropriation, and in 1822 it was authorized to use its surplus in erecting school buildings. This immediately aroused the suspicions of the Free School Society, which maintained that inasmuch as the buildings became the permanent property of the Baptist church, the state funds were being used for sectarian profit. It tried to get the law of 1822 repealed, but without avail. The Bethel Baptist Church soon had three schools opened, and inasmuch as they drew pupils from the society's schools, the former received a proportionate share of the state appropriation which the society lost.

City council refused state funds to religious societies. — As a result of the controversy, however, the legislature placed the distribution of New York City's share of the state school

fund in the hands of the common council of the city. The city council refused (in 1825) to grant funds to any religious society, and distributed the money to the Free School Society and three other smaller similar organizations. Thus the first sectarian difficulty resulted in the first step in placing public education under the control of city authorities.

Local tax for school support authorized, 1828. — The next step was the authorization of the levying of a local tax for school support. In 1828 the Public School Society issued an address showing the need of more provision for elementary education. In this address, and also in an investigation conducted by the city council shortly afterwards, it was estimated that over ten thousand children of school age were growing up in entire ignorance. Petitions drawn up by citizens and by the city council were presented to the legislature, requesting the right to levy a local tax on city property for school support. The petitions were granted, although the tax which was authorized was much less than had been requested.

Catholic Orphan Asylum granted public funds. — In 1831 the Catholic Orphan Asylum applied to the city council for a share of the public-school funds. It claimed to be entitled to them as much as the Orphan Asylum Society, which was really Protestant in character but not in name. The Public School Society opposed this request, but the council granted it. The Methodist Church immediately applied for funds for its orphan asylum, but was refused by the council.

Catholics accused society of sectarian instruction. — In 1840 the trustees of the Catholic schools submitted an application to the council for a share of the school funds, declaring that the books and the instruction of the Public School Society were practically sectarian and Protestant. The society, in its first appeal for subscriptions (in 1805), had stated that it would "be a primary object, without observing the forms of any religious society, to inculcate the sublime truths of religion and morality contained in the Holy Scriptures." It

was such instruction that the Catholics asserted had become sectarian. Simultaneously with the Catholics, a Hebrew congregation and the Scotch Presbyterian Church also applied for funds. The society made strenuous opposition to these requests and set to work to revise its books, but the Catholics claimed that this would not assure nonsectarian instruction to their satisfaction. The city churches took sides in the heated debate which followed, and the request for funds was refused by the city authorities.

Legislature created New York City Board of Education, 1842.— The Catholics, however, did not stop, but carried the fight to the state legislature. Both sides, for and against the division of school money among religious societies, were represented by petitions. The resulting discussion of the question made it evident that either to leave the funds almost exclusively in the hands of a private corporation, the Public School Society, or to divide them among warring religious sects would be unsatisfactory from the standpoint of public policy. The final result was what neither party to the controversy had desired or expected, namely, an act which made the following provisions: (1) it established a Board of Education in New York City to consist of members elected from each ward; (2) each ward was to have two school inspectors and five trustees, and to be considered as a separate town in applying the general educational laws of the state; (3) no portion of the school funds was to be given to any school in which "any religious sectarian doctrine or tenet shall be taught, inculcated, or practiced." By these provisions the foundation of a real city system of public elementary schools was laid.

The act creating the Board of Education was imperfect in many respects and was soon amended so as better to define the board's powers. The Public School Society continued to maintain its schools, however, although at a considerable financial loss, until 1853, when it transferred its property to the city Board of Education.

Pennsylvania's public pauper-school system. *Lack of public elementary schools in colonial period.*— In colonial Pennsylvania, during the fifty years immediately preceding the American Revolution, no serious efforts were made by the public authorities to establish public elementary schools. There was no effective colonial law making education or the maintenance of elementary schools compulsory. As noted in Chapter III, elementary education was usually provided in church schools or voluntary neighborhood schools, the former being common in the eastern part of the state and the latter in the western part.

Constitution provided for gratuitous education of poor only. — The state constitution of Pennsylvania, adopted in 1790, contained the following provision: "The legislature shall, as soon as conveniently may be, provide by law for the establishment of schools throughout the state, in such a manner that the poor may be taught gratis."

Efforts had been made to secure a more liberal provision in the constitution for general public elementary education, but the idea prevailed that free public education should be provided only as a form of poor relief. For over forty years all the legislation for public elementary education took this form.

Free pauper education in private schools provided in 1802.— No law was passed to carry out even the limited requirements of the constitution until 1802. In that year an act of the state legislature provided that the local guardians and overseers of the poor should notify such parents as they deemed sufficiently poor, that the tuition of their children in any of the local schools which they might attend would be paid from public funds. The money for this purpose was to be raised in the same way as the poor tax or road tax. This law was effective, however, in only a few places, and it was slightly modified in 1804 and 1809, but without any fundamental change in its spirit. The law in its final form made no provision for the establishment of public schools, and set no

standards for existing schools. It simply provided that poor children should be taught free in existing private schools if their parents would declare themselves to be paupers. No other provision for free elementary education in the whole state was made until 1834.

Public pauper schools authorized in special districts, 1818. — Special acts were passed, however, before 1834, providing for schools under the public authorities of certain districts, for children too poor to pay tuition. The first of such special acts was passed by the legislature in 1818 for the city and county of Philadelphia. The conditions of elementary education in that city were similar at that time to those in New York City, which were described in the preceding section. The only elementary schools in the city were church and private schools and those maintained by voluntary philanthropic organizations. None of the latter, however, were as important as the Free School Society of New York. The law of 1818 authorized Philadelphia to organize at public expense free schools for "indigent orphan children or children of indigent parents." This provision differed from the one made for the state at large in that it organized public "pauper schools" under public authorities, instead of paying the expense of educating poor children in private schools. This special provision was extended in 1821 and 1822 to five other counties. For years the governors and other interested parties recommended to the legislature that some action be taken to create a system of free public schools for all children, but there was always "a determined majority ever ready to resist such a measure."

Public tax-supported schools made optional in 1834. — In 1827 there was organized in Philadelphia the Pennsylvania Society for the Promotion of Public Schools, which maintained a vigorous campaign extending over several years. Yearly they printed memorials to the legislature, setting forth the facts concerning the ineffectiveness of the law of 1809, the thousands

of children of school age who were growing up in ignorance, and arguments for free public schools for all children without distinction. As a consequence, meetings were held all over the state to urge legislative action. Several bills were introduced but failed of passage, and it was not until 1834 that a law was passed authorizing the desired system.

The law of 1834 constituted wards, townships, and boroughs as school districts and authorized them to levy local school taxes. If they did so, they were eligible to share in the income from the state common school fund which had been created in 1831. The law also provided for local public-school officers, inspectors, etc.

The law was not received with universal favor by any means. Of the 987 school districts of the state, 485 either voted outright against levying the tax for free schools or took no action whatever. The issue became the basis of intense local strife in many places. There were two chief sources of opposition. One source was the churches, including the Friends, Lutheran, Reformed, and the Mennonite, which had maintained for years their own schools with their own peculiar forms of religious instruction. These schools often represented considerable property value; hence sectarian fears and vested interests were excited. The second source of opposition was the selfish interests of propertied individuals, who maintained that the school taxes would bankrupt them. They also asserted that it was unjust to tax for school purposes persons who had no children to be educated.

A vigorous fight was made in the legislature in 1835 to secure the repeal of the law of 1834, but without avail. Instead of being repealed, the law was strengthened so as to make it more effective in securing local assent to the levying of the local school tax. In a few years most of the districts had accepted the new conditions, being stimulated to a considerable degree by the desire to share in the state fund, which they could not do without taxing themselves locally.

The degenerate district-school system of Massachusetts. *Four periods in decline and regeneration.*—The facts concerning the tardy development of tax-supported schools controlled by public authorities in New York City and in Pennsylvania help us to appreciate the significance of the Massachusetts law of 1647, which made the establishment of town schools compulsory at that early date. At the same time the conditions in Pennsylvania will help us to appreciate the early degeneration in Massachusetts from the advanced standard set up in the early years by the Puritan General Court. The development in Massachusetts may be divided roughly into four periods.

1. *The first period extends from 1647 to about 1701* and is characterized by rapid decline in local interest in the maintenance of schools and by the lack of sufficiently vigorous compulsion by the central authorities.

2. *The second period may be dated from 1701*, when the fine for failure to maintain a town school was increased by the General Court to twenty pounds. This was sufficient, or more than sufficient, to employ an elementary schoolmaster; hence towns preferred to obey the law rather than to pay the fine. The endeavor to get the necessary local taxes voted in townships of a scattered population resulted in the establishment of what is known as the "moving school," that is, a school kept for a fraction of the year in each of several sections of the town, thus giving all parts equal advantages of convenient distance for the school children to go.

3. *The most important date in the third period is 1789*, when the state legislature passed a law that legalized the practice, which had grown up gradually, of maintaining "divided," or "district," schools within a township. That is, instead of spending the township money for the maintenance for a long period of one good school, to which children might come from some distance, each little hamlet in the township was granted the part of the tax which it had raised, to be used in maintaining its own little school for a few months out of the year.

4. *The most important date in the fourth period is 1837,* when the legislature established the State Board of Education, with a secretary whose chief function was to report to the legislature concerning the actual condition of the schools of the state and to carry on a propaganda that would educate the people to an appreciation of the possibilities of better schools.

Social factors in decline of Massachusetts schools. — The social basis of the early Massachusetts educational laws was described in the chapter on the Reformation schools. This basis was found in the general Protestant principle of the necessity for all persons to read the Scriptures, and in the Calvinistic-Genevan principle of Church-State government. The decline from the early interest in the maintenance of schools involves a secularizing of the general point of view, together with economic and other social changes. These will be summarized as they are discussed by Updegraff in his history of the development of the moving school.

1. *Calvinistic despotism replaced by religious dissension and toleration.* — The first factor to be considered in the decline of public interest in education was the change from unity of religious belief to divergence and to toleration of other sects. The strongest contrast existed in the beginning between Massachusetts and Pennsylvania in this respect, Massachusetts being characterized by the bigoted, unified Calvinism of the early English Congregational Church, and Pennsylvania by the liberal tolerance which attracted a great variety of sects and nationalities. As Massachusetts tended to develop toward the more tolerant cosmopolitan condition which prevailed in Pennsylvania, there was a corresponding decline in the general interest in public education.

The following are but a few examples of the development of religious differences and of religious toleration in Massachusetts. In 1670 the Church in Boston became divided on a question of admission to membership, and a part of the congregation seceded, forming the Old South Church. At the

same time the persecution of other sects declined. The Baptists were only moderately restricted when they established a church in Boston in 1679, and thereafter many other Baptist churches were established in different parts of the colony. In 1684, when the old charter was annulled, the Episcopalian worship was established in Boston. By 1700 internal dissension among the Puritans was common. Many persons became members of the church, and few questions were asked concerning their eligibility. By the law of 1692 each town was required to support an orthodox (Congregationalist) minister, but by 1728, Episcopalians, Baptists, and Quakers were allowed to pay their assessments to their own clergymen. These examples all illustrate the breakdown of the Calvinistic ecclesiastical despotism under which the public-school system had been established.

2. *Sparsely settled regions developed.* — The second social factor in the decline of interest in public schools was the scattering of the population. The early Massachusetts towns were compact units, with the dwellings clustered around the meetinghouse, surrounded by farms and uncut forest. This concentration was stimulated not only by the danger of attack by the Indians, but also by interest in attendance on church. This interest was expressed in the law of 1635, according to which no dwelling house should be built more than one-half mile from the meetinghouse. It was not long, however, before the people began to form less compact settlements. There were various reasons. One was the decline in religious fervor. Another was the desire to use fertile land in remote parts of the township, often relatively inaccessible from the center owing to lakes, streams, swamps, hills, etc. Thus little hamlets grew up within the township but isolated from the central settlement. Moreover, with the cessation of the Indian wars individuals began to push out into the frontier regions, forming settlements which lacked the definite town center that had characterized the early communal towns.

3. *General intellectual status of colonists declined.* — A third factor in the decline of interest in public schools was a decline in the general intellectual status of the colonists. The original settlers were a select lot, including an unusual proportion of university graduates and other well-educated persons. In a very few years such intellectual leaders in the younger generation, instead of coming to the colony, tended to return from it to England, where the Puritan ascendancy offered better opportunities for a career. Hence, in striking contrast with the years before 1647, when some towns voluntarily established schools without being compelled to, we soon find some practicing all sorts of shifts and subterfuges to avoid obeying the spirit of the law requiring schools, but at the same time obeying its letter so as to avoid paying the fine. Even the support of the elementary school was considered a task in many places, and the Latin grammar school was often little more than an elementary vernacular school.

4. *Small hamlets within towns given local self-government.* — A fourth factor in the decline of interest in public schools was the decentralizing tendencies of democracy. The same contrast which existed between the public-school system of centralized despotic Prussia and that of democratic England is well illustrated in the different periods of the educational history of Massachusetts. As the control of the Massachusetts schools became more decentralized they became less efficient, and recentralization was necessary to render them efficient. The early organization of Massachusetts towns as communal villages, owning land, cattle, and other possessions in common, was described in Chapter III. The town meeting for the settlement of all questions of common interest was a prominent factor from the beginning. When separate hamlets grew up within the township, it was natural that they should desire and be accorded the same privileges in miniature as the town enjoyed. Thus, as early as 1650, some of these groups or hamlets were permitted to employ their own ministers. The

hamlets either remained parishes of the towns or sometimes grew into separate towns. They had their own organization for civil government, including the parish meeting, a parish clerk, constable, etc. They assumed not only local privileges, but also the local responsibilities such as the care of the highways lying within their limits. The maintenance of their own schools was but one factor in this general self-government.

5. *Convenient private dame schools suggested small convenient public schools.* — A fifth factor that influenced the decline of interest in public education and resulted in the establishment of small ineffective district schools was the existence of small, convenient, private dame schools in which children were often taught their letters before entering the regular town school. Sometimes the same town school was both an elementary and a Latin grammar school, and ability to read letters and syllables was made an entrance requirement. In Boston this entrance requirement to the vernacular schools continued in force until 1818, when the first public "primary" schools were opened. Consequently prior to this date children usually had to attend private dame schools before they could enter the Boston public schools. Moreover, little children could not always be trusted to go the long distance to the central town schools, and dame schools prospered for this reason in some towns.

Equality of convenience secured in makeshift moving schools. — The convenience of location of the private dame schools tended to emphasize, in contrast, the inequality of convenience in the location of the central town school. To secure greater equality of convenience, the moving school was established. This was often necessary before the citizens would vote the tax for the public school. They insisted on equality of opportunity for all and secured it by having a makeshift of a school, held for a few months in each of the several parts of the town. In many cases the moving school was held in the same places as former dame schools.

Updegraff says, "That the dame school was a factor in bringing about the moving school — that it was a center for group feeling and action respecting schools — there can be no doubt." (**6**: 143.)

Such were the social factors which were influential in the decline in the conditions in the public elementary town schools of Massachusetts; namely, (1) disappearance of the unified Calvinistic despotism; (2) scattering of the population; (3) decline in the general intellectual status of the colonists; (4) the decentralizing influence of the democratic principles of local government and equality of opportunity; and (5) the convenience of the private dame schools.

Description of establishment of a moving school, 1702. — As stated above, the law of 1701, increasing the fine from ten pounds to twenty pounds for failure of a town to maintain a schoolmaster, influenced towns which had previously paid the fine to maintain moving schools instead. An example of such a moving school is found in the town record of Malden, Massachusetts, for 1702. It reads as follows:

> John Sprague is chosen schoolmaster for ye year ensuing to teach children to read and write and to refmetik according to his best skill, and he is to have ten pounds paid him by ye town for his pains. The school is to be free for all ye inhabitants of this town: and to be kept in four several places, one quarter of a year in a place. (**6**: 154.)

Massachusetts district schools spent their share of town taxes, 1789. — The tendency to delegate the control of school affairs to smaller local units was continued in the development of autonomous school districts within the town. Such a division of towns into districts was begun shortly before the middle of the eighteenth century and was a common practice by the time of the Revolutionary War. In 1789 the state legislature passed a fundamental law legalizing many of the practices that had grown up, including the district system. At first each district enjoyed only the privilege of using its share of the town tax to support its own small school, but in

1800 the districts themselves were authorized to levy school taxes. In 1817 they were made corporations with power to enforce contracts, etc., and in 1827 were empowered to choose a committeeman who had charge of the school property and of the employment of teachers.

> The school district now, from being a mere social convenience, has become a political institution. . . . The year 1827, therefore, is a memorable one. It marks the culmination of a process which had been going on for more than a century. It marks the utmost limit to the subdivision of American sovereignty — the high-water mark of modern democracy, and the low-water mark of the Massachusetts school system. (**4**: 92.)

Selfish political strife dominated school districts. — The school districts as thus organized became seething centers of selfish political activity, motivated by petty private interests, usually opposed to the common good. The election of the school committeeman, the selection of the site of the school building, the employment of the teacher — all became issues in intense local strife. Where a school district received for the support of its school only such part of the town tax as it paid (which was often the case), a poor district had only sufficient funds to maintain a very cheap school for a very few months. Before the district system had reached this "high-water mark" in 1827, however, agitation against it was active and had resulted in the beginning of a reform which found expression in the law of 1826.

Common-school revival; regeneration of town system in Massachusetts. — The common-school revival by which the public elementary-school system of Massachusetts was regenerated occupies, roughly, the second quarter of the nineteenth century. Various social changes, such as the growth of manufacturing towns, philanthropic movements, etc., were influential in bringing about this revival. We shall give here, however, only a brief account of the actual changes in the school system, with notices of two individuals who were prominent leaders in the movement.

Reform legislation secured by Mr. Carter. — The passing of the laws which served as the basis of the reforms was largely due to the personal efforts of James G. Carter (1795–1849), who for years, beginning about 1824, conducted in the public press and by public address a vigorous attack on existing conditions, with definite suggestions for improving them. As a member of the state legislature, Mr. Carter's great parliamentary ability enabled him to secure the passage of laws under conditions of opposition which would have defeated a less talented leader.

Supervision of schools by committee of town ordered, 1826. — Legislation resulting from these efforts was passed in 1826 and was one of the first official steps to remedy the evils of the district system. By this law every *town* was required to choose a school committee to have general charge of all the schools of the town, to select textbooks, and to examine and certify teachers, though the district committeeman could still employ the teacher. This law was opposed by many districts as depriving them of privileges which they had enjoyed. It is significant as a step in the direction of centralization of control and specialization in the supervision of schools. This supervision had formerly been in the hands of a committee which included the ministers and selectmen of the town. Supervision by a special school committee instead was a step in the direction of the development of professional standards.

State school fund put state in touch with local units. — In 1834 a state school fund was created. In order to share in the proceeds of this fund, towns were required to raise by tax at least one dollar for each child of school age, and to make such statistical reports as the state required. By this means the central state government was put in direct touch with each local school situation.

Massachusetts State Board of Education created, 1837. — Finally, in 1837 as a result of Mr. Carter's skillful labors, the legislature, after considerable contest, created the State Board

of Education, consisting of eight members appointed by the governor and council. The Board was given no executive power, but was to secure information concerning the schools of the state and to recommend changes to the legislature. It was to appoint a secretary who was to study the school system and diffuse information concerning the best methods of instruction, etc.

Horace Mann, secretary of Massachusetts Board of Education for twelve years. — Horace Mann (1796–1859), who was a member of the Board, was chosen as its first secretary and served for twelve years. During this period so much was accomplished that the common-school revival has become inseparably linked with the name of Horace Mann. At the time of his appointment he was president of the state senate. He was a well-trained and successful lawyer, capable in public address, of strong moral principles, and thoroughly unselfish in his devotion to the public good. He had been prominent in politics, and in later life was a member of Congress. He died while president of Antioch College in Ohio.

Three agencies in developing public sentiment. — In carrying out his duties Mr. Mann secured reports concerning the deplorable condition of the district schools. These reports he published and discussed as a basis of improving public sentiment. In his campaign of education he employed three agencies. First, he traveled throughout the state organizing conventions and public meetings, at which he lectured on improvements in the schools. Second, he issued annual reports which showed the defects in existing conditions and described the superior methods and conditions which prevailed in Europe and elsewhere. Third, he conducted the *Common School Journal* as a periodical message to teachers and citizens. Inasmuch as the Board had no real power, the efficiency of the secretary depended on his skill in securing changes in public sentiment that would result in local and state legislation.

Summary of improvements under Horace Mann. — Mr. Mann's success in this direction during the twelve years that he was secretary is thus summarized by Martin in his "Evolution of the Massachusetts School System."

> Statistics tell us that the appropriations for public schools had doubled; that more than two million dollars had been spent in providing better schoolhouses; that the wages of men as teachers had increased sixty-two per cent, of women fifty-one per cent; one month had been added to the average length of the schools; the ratio of private-school expenditures to those of the public schools had diminished from seventy-five per cent to thirty-six per cent; the compensation of school committees had been made compulsory, and their supervision was more general and more constant; three normal schools had been established, and had sent out several hundred teachers, who were making themselves felt in all parts of the state.
>
> All these changes, great as they were in themselves, had their chief significance as indications of a new public spirit. The great work which had been accomplished had been to change the apathy and indifference of the people toward the common schools into appreciation and active interest. (**4**: 174.)

Fear of Prussian centralization; districts abolished, 1882. — These ends were not secured, however, without strenuous opposition from the conservative forces, especially the schoolmasters themselves and the sectarian religious interests. Efforts were made to secure the abolition of the Board of Education as savoring too much of "Prussian centralization," but they were unsuccessful. On the other hand, the reform forces did not succeed in securing the permanent legal abolition of the district-school system until 1882, although it had been voluntarily given up in most places before that time.

Indiana; struggle to carry out liberal constitutional provision. — The development of the school system in Indiana is significant in the advanced provision made in the first constitution (1816) for free schools for all, and in the long struggle necessary to educate public sentiment to carry out the requirements of the constitution.

Constitution of 1816 required free schools of all grades.— The first state constitution of Indiana, adopted in 1816, contained the following requirement:

> It shall be the duty of the General Assembly, as soon as circumstances will permit, to provide by law for a general system of education, ascending in a regular gradation from township schools to a state university wherein tuition shall be gratis, and equally open to all.

This is one of the most liberal of the constitutional provisions made by any of the states for education. Some of the states which had adopted constitutions before Indiana made no reference to schools. Some made mention of schools, or contained narrow provisions, such as that of Pennsylvania, which provided only for public schools for the poor. None of these provisions were superior to that of Indiana for free education from the elementary schools through the state university.

Free schools not developed for thirty years.— It was many years, however, before any such system of schools as the constitution contemplated was actually organized. Meanwhile, however, statute after statute was passed by the legislature making limited and usually ineffective efforts for free common schools. Such meager schooling as was provided, continued, as in Pennsylvania, to be in church, neighborhood, and other private schools. Among the ineffectual attempts to establish a state system of free schools were the following:

Ineffectual laws of 1824, etc.— In 1824 an act was passed by the legislature authorizing townships, if they so desired, to elect school trustees, who were to control the schools, license teachers, etc. The law was merely permissive, not mandatory, and not many schools were opened under it. In 1831 the voters in the school districts into which townships were divided were authorized to decide how much, if any, local tax to levy for the support of schools. But these powers were practically nullified by the clause that "no person should be liable for tax who does not, or does not wish to, participate in the benefit of the school fund." A law passed in 1833

was an improvement in this respect, inasmuch as it authorized the voters of each district to determine who, if any, should be exempt from taxation. It also authorized district trustees to pay to the teachers regular salaries, but at the same time authorized the practice, which was more common, of each householder fulfilling his own "contract with the teacher for tuition, fuel, and contingencies." Various laws (1831, 1836, 1841) legalized the practice of paying public-school funds to private schools, as was the case in New York City.

Opposition to free schools; failure of laws.— None of these measures were successful in developing a system of public schools. Their failure is summarized by Boone in his "History of Education in Indiana," as follows:

> As yet, there was no system. With an elaborate code, there were few schools. An army of officers effected but a nominal service. . . . State education had many and vigorous opponents. Elementary education was chiefly conspicuous through neglect of it. . . . Free schooling of any grade was thought by many to be dangerous to the state and subversive of the highest individual good. It was undemocratic. One member of the General Assembly, in 1837, is quoted as saying, "When I die, I want my epitaph written: 'Here lies an enemy to free schools.'" It was estimated that less than one sixth of the children of school age attended any sort of school.

Caleb Mills conducted campaign for free schools, 1846.— In this situation the efforts of a single individual, like those of James G. Carter in Massachusetts, were an important factor in arousing general appreciation of the necessity for reform. This individual was Caleb Mills, a native of New England, who from 1843 to his death in 1879 influenced nearly all the legislation in Indiana for common schools. In 1833 Mills became the first principal of what was later Wabash College. He had made a careful study of the needs of education in the Middle West and deliberately sought to arouse the legislature to effective action. This he did by six messages which were prepared, printed, and distributed between 1846 and 1851.

In these he emphasized the extreme illiteracy of the population of Indiana; compared the schools unfavorably with those in other states; and outlined definite legislation to secure a uniform secular system.

State common-school conventions influential from 1847.— Another factor in arousing public sentiment for ten years were the state common-school conventions, the first of which was held in 1847. At these conventions papers were presented, bills were prepared for the legislature, and addresses distributed to the people. The campaign was similar in some respects to that of Horace Mann in Massachusetts, in making the people acquainted with the actual deplorable condition of the schools and the possibilities of improvements as shown by a comparison with other states.

Referendum vote on taxation for free schools, 1847.— The efforts of Mr. Mills and the common-school conventions resulted in 1847 in the legislature passing an act submitting the question of taxation for the support of free schools to the citizens of the state for a referendum vote. The vote was taken at the election in 1848 and showed a fair majority in favor of free schools, approximately 78,000 voting for and 61,000 against taxation. The opposition was strongest in the southern part of the state, which was the oldest and most densely populated section. This opposition was probably due to the fact that the settlers there were largely from Kentucky, Virginia, and the Carolinas, where free schools were considered to be only for paupers.

Law of 1849; local tax optional in counties. — In accordance with the results of the referendum the legislature in 1849 passed a law authorizing counties to levy taxes for school purposes on property and insurance premiums, and also to levy a poll tax. These taxes, with other school funds from public lands, etc., were to constitute the county common-school fund. This fund was to be distributed to the townships so as to equalize the school expenditures per scholar in different townships.

School districts were authorized to raise taxes to build and maintain schools, if they desired to supplement the money received from other sources.

There were two important defects in this law. One was that private schools could be recognized as eligible to share in the public funds at the discretion of the township trustees. The second defect was the exemption of individual counties from the operation of the law until they voted their assent. This meant a practical loss, in many counties, of the long battle that had been fought for public education. Of the ninety counties of the state, fifty-nine voted to accept the law and organize their schools according to its provisions, and thirty-one voted against it. In spite of its defects the law provided a good basis for such communities as desired an adequate system of free schools.

Summary of factors retarding development of American free secular schools.—This will conclude our discussion of the four typical examples of the development of American secular public-school systems, namely, New York City, Pennsylvania, Massachusetts, and Indiana. The discussion has demonstrated that the development of free, public, secular, elementary schools was greatly retarded by the following factors:

1. By sectarian religious jealousies and the traditional practice of each congregation maintaining its own school.

2. By the practice of paying public funds to private schools, thus creating vested interests which were often opposed to the public welfare.

3. By the prevailing conception of public education as a form of poor relief, suitable only for paupers.

4. By the claim that it was undemocratic and unjust, inasmuch as citizens without children would have to pay for services from which (it was asserted) they received no benefit.

5. By the tendency to delegate powers of self-government to very small local units, where petty selfish interests were dominant.

Free schools stimulated by the Lancasterian monitorial system. — The Lancasterian system of monitorial or mutual instruction played an important part in developing sentiment in the United States in favor of free public schools. We have had occasion to refer to this system before. As an improvement in the technique of classroom management it was described in Chapter V. As the basis of the elementary schools of England at the beginning of the nineteenth century, it was discussed in Chapter XI. It was adopted by the Free School Society of New York City in 1806 and was very generally used in the cities of the United States during the first quarter of the nineteenth century. In considering the Lancasterian system in its relation to the development of free schools in America, there are three principal points to be noted: first, the growth of large cities with the consequent social changes; second, the cheapness of the Lancasterian system; and third, the extremely enthusiastic and optimistic belief of publicists and educators in its possibilities.

Growth of cities concentrated ignorance, vagrancy, pauperism, vice, and crime. — The first third of the nineteenth century witnessed a very rapid growth of large cities in the United States. In 1800 there were only six cities having a population of over 8000; in 1810 there were eleven; in 1820, thirteen; and in 1830, twenty-six. The population of the six largest cities in 1800 is shown in the following figures:

Philadelphia . . .	69,403	Boston	24,937
New York . . .	60,489	Charleston . . .	20,473
Baltimore	26,114	Salem	9,457

In these cities existed concentrated ignorance, vagrancy, pauperism, vice, and crime. Public-spirited citizens who were concerned about the degraded social condition of the lower classes in the cities organized societies to study and improve it. Thus in New York City there was organized in 1817 the Society for the Prevention of Pauperism. This

society undertook the establishment of a savings bank, an apprentices' library, and other enterprises. Defects in the penitentiary system were attacked, especially the confining of vagrant children with hardened criminals. A private subscription of $17,000 was raised for the founding of a House of Refuge for Juvenile Delinquents, which was established in 1824, the first of its kind in the United States.

The same peculiar social problems of city life were uppermost in the minds of the citizens who established free schools on the Lancasterian basis. This fact was expressed by De Witt Clinton as follows:

> A number of benevolent citizens had seen, with concern, the increasing vices of the city, arising, in a great degree, from the neglected education of the poor. Great cities are, at all times, the nurseries and hotbeds of crimes. Bad men from all quarters repair to them, in order to obtain the benefit of concealment, and to enjoy in a superior degree the advantages of rapine and fraud. . . . The mendicant parent bequeaths his squalid poverty to his offspring, and the hardened thief transmits a legacy of infamy to his unfortunate and depraved descendants. . . . In this state of turpitude and idleness, leading lives of roving mendicancy and petty depredation [these children existed] a burden and disgrace to the community. (**9**: 17.)

A similar situation confronted the leaders of the movement for the establishment of free primary schools in Boston (1818).

> These gentlemen had long been united in forwarding various projects for the amelioration and improvement of the condition of the poor. It was mainly through their exertions that the "Provident Institution for Savings" had been put into operation, and its success had encouraged them to further efforts in the same direction. (**10**: 18.)

Cheapness of Lancasterian schools furnished a possible remedy. — As suggested above, this general movement for the amelioration of social conditions in the cities, sometimes known as the humanitarian movement, included efforts to establish schools to remove the gross ignorance which was considered to be one of the chief causes of the vicious conditions. The lack of provision for common-school education

and the unwillingness of the people to contribute for it by public taxation have been demonstrated earlier in this chapter. Under these circumstances cheapness was an essential element in any system of instruction that could be organized on a large scale. Hence the Lancasterian system with its monitorial instruction was just what was needed. The economy of the system may be judged from the fact that it was adopted in Pennsylvania, where the legislators were not willing to appropriate public money for the free education of any but pauper children. This economy is shown in the large number of pupils to each teacher. In Philadelphia, in 1819, there were ten public Lancasterian schools, with ten teachers and 2845 pupils, or *only one teacher for 284 pupils;* in 1834 there were twenty schools, thirty-one teachers, and 6767 pupils, or *only one teacher for 218 pupils.*

The necessity of cheapness in any system of instruction which could hope for general adoption is further shown by the low cost of instruction per child. In New York City about 1840 this was only $2.70 a year. In Brooklyn it was only a little over $3.00. During the life of the New York City Public School Society (1805–1854) the annual cost of instruction per child seldom exceeded $5.00, varying from $1.37 in 1822 to $5.83 in 1852. (**9**: 509, xxxii.) If these figures are compared with the amounts spent to-day for free public instruction, we can realize the change that has taken place. The median annual cost (approximately the average cost) per child for elementary schooling in 1902–1903, in some fifty cities in the North Atlantic states, was found by Strayer to be $28.50, one city spending as much as $55.00.

Cheap instruction was the only kind that could be hoped for in free schools in the first part of the nineteenth century. The Lancasterian system provided such instruction. This, no doubt, was the chief social reason for its adoption; but it must not be forgotten that contemporary evidence indicated that its

effectiveness in training the large groups of children which it was desirable to handle in city districts made it superior to the methods of instruction commonly pursued.

Evidence of widespread enthusiasm for the Lancasterian system. — The effectiveness and cheapness of the Lancasterian system led to the expression of exaggerated hopes for educational and general social reform through its use. Among its advocates were Governor De Witt Clinton, of New York; Governor Wolcott, of Connecticut; William Russell, editor of the first *American Journal of Education;* and John Griscom, noted scientist and educator, all of whom, through a period of more than twenty years, believed in the system.

Clinton called Lancasterian system a blessing from heaven. — Governor De Witt Clinton's tribute to the system is best known. In 1809 he said:

> When I perceive that many boys in our school have been taught to read and write in two months, who did not before know the alphabet, and that even one has accomplished it in three weeks — when I view all the bearings and tendencies of this system — when I contemplate the habits of order which it forms, the spirit of emulation which it excites, the rapid improvement which it produces, the purity of morals which it inculcates — when I behold the extraordinary union of celerity in instruction and economy of expense — and when I perceive one great assembly of a thousand children, under the eye of a single teacher, marching with unexampled rapidity and with perfect discipline to the goal of knowledge, I confess that I recognize in Lancaster the benefactor of the human race. I consider his system as creating a new era in education, as a blessing sent down from heaven to redeem the poor and distressed of this world from the power and dominion of ignorance. (**9**: 19.)

Advocated for the public schools of Connecticut. — Governor Wolcott of Connecticut, in his message to the legislature in 1825, said:

> If funds can be obtained to defray the expenses of the necessary preparations, I have no doubt that schools on the Lancasterian model ought, as soon as possible, to be established in several parts of this state. Wherever from two hundred to one thousand children can be convened within a suitable distance, this mode of instruction, in every branch of reading,

speaking, penmanship, arithmetic, and bookkeeping, will be found much more efficient, direct, and economical than the practices now generally pursued in our primary schools. (**11**: 102.)

Propagated by William Russell's publications.—The testimony of a prominent contemporary professional educator, William Russell, is of the same nature as that of the two governors quoted. Mr. Russell was editor of the first successful American educational periodical, the *American Journal of Education*, published from 1826 to 1830. He was one of the most important schoolmen of the period, in touch with educational movements in Europe and America, interested in the training of teachers, in Pestalozzianism and other methods of improving teaching. In 1826 he edited a "Manual of Mutual Instruction," containing directions for organizing instruction on the Lancasterian plan, and a history and justification of the method. In the preface it is stated that the volume was issued in response to repeated calls which had been made "at the office of the *Journal of Education* for information concerning the system of mutual instruction, and for works calculated to assist teachers in introducing it." This little volume of one hundred twenty-one pages is a most instructive source of information as a contemporary description of the development of the system in New York City, Albany, New Haven, Boston, and elsewhere. Mr. Russell strongly favored the system, and even printed an argument of fourteen pages in favor of adopting it in colleges.

Advocated and used by John Griscom.—The enthusiasm of Dr. John Griscom for the monitorial system lends additional evidence of its significance. Mr. Griscom's travels, published as "A Year in Europe" (1819), is one of our best sources for information concerning schools of that period. In 1805 he opened the first course of popular lectures on physics and chemistry given in New York City. He was the principal organizer of the Society for the Prevention of Pauperism and of the New York House of Refuge (1824). Mr. Griscom had been

impressed with the successful operation of the monitorial system in the New York elementary schools and had visited the high school of Edinburgh, Scotland, where, he said:

> I saw a school, eminent almost to a proverb for the elevated tone of its classical attainments, entirely under the regimen of the monitorial system. Such was the success attending it, that it was universally admitted that the 150 boys under the head master made a more rapid progress, were more thoroughly taught, and pursued their studies with more vigor and alacrity, than in any institution in which the monitorial system was not adopted. (**12**: 202.)

Impressed with the necessity of a similar high school in New York City, Mr. Griscom organized a stock company, erected a three-story building, employed a competent assistant, and in 1825 opened a school which soon contained six hundred fifty scholars. It continued in successful operation until 1831, when the building was sold to the Society of Mechanics and Tradesmen, who desired it for a school which they maintained.

Cheap Lancasterian schools prepared way for taxation. — The actual influence of the Lancasterian methods on the development of free schools is very evident in the case of Pennsylvania. This connection is asserted by Wickersham in these words:

> The special acts relating to education in Philadelphia and in the counties above mentioned, were prompted by a new plan of school management, called Lancasterian, after its author, Joseph Lancaster, which began to take root in Pennsylvania about 1809. Schools conducted on this plan were established at Philadelphia, Lancaster, Columbia, Harrisburg, Pittsburgh, Milton, Erie, New Castle, Greencastle and perhaps at a few other places. (**8**: 270.)

The important service rendered by the Lancasterian schools in Philadelphia in preparing the way for taxation is stated as follows:

> The Lancasterian schools served the good purpose of hastening the adoption of the free-school system, by gradually preparing the way for the heavy taxation the support of such a system necessarily incurs. They did more; they awakened thought and provoked discussion on the

question of education in all its aspects, the result of which was a more enlightened public sentiment on the subject. In addition, to the Lancasterian system Philadelphia and Pennsylvania are deeply indebted for another thing. It brought with it the idea of the necessity of trained teachers, and this idea outlived the system of which it was a part, and became permanently incorporated into the educational policy of the city and the state. The establishment of a Model School for the preparation of teachers was provided for in the law of 1818, and as a school of this kind it was the first established in the country. In 1821 this school was attended by five hundred and sixty-four pupils, and teachers were prepared therein not only for the schools of the city, but to some extent for those in other parts of the state. (**8**: 289.)

Reformed methods in secularized schools devised by Pestalozzians. — The last three chapters described the development of secular school systems in Prussia, England, and the United States. This development represents the culmination of the secularizing movement, of which certain general social aspects were described in Chapters VI and VIII. As soon as these secular systems of schools were established by the various governments, the way was opened for the development of adequate school support, of training for teachers, of an enriched curriculum, and of improved methods. The initial direction of these improvements in the actual work of the elementary schools was determined largely by Rousseau's "Émile." We have traced this influence in Germany in connection with the work of Basedow and his followers. The Basedow movement did not affect other countries to any great extent, but the efforts of a second follower of Rousseau, namely Pestalozzi, revolutionized the methods of teaching in elementary schools in many of the countries of Europe as well as in the United States. The rest of the book will be devoted largely to a discussion of the work of Pestalozzi and his disciples, including Herbart and Froebel.

The Pestalozzian movement proper and its methods will be discussed in four chapters. These will describe the general development of the movement, the organization of industrial

education for the reform of juvenile delinquents, the development of oral and objective methods in natural science, geography, and arithmetic, and some of the pernicious formalizing elements in Pestalozzian practice. A long chapter will then be devoted to the Herbartian movement, which emphasized especially the possibilities of moral training through an interested methodical study of history and literature. Finally, the development of methods of manual constructive work and the use of social participation as an educative factor in elementary schools will be discussed in connection with the Froebelians.

BIBLIOGRAPHICAL NOTES

Concerning the general social basis of American school systems. — 1. CUBBERLY, E. P. *Changing Conceptions of Education.* (Houghton Mifflin Company, 1909.) Chaps. i and ii. A brief but masterly interpretation in inexpensive form.

2. CARLTON, F. T. Economic Influences upon Educational Progress in the United States, 1820–1850, *Bulletin of the University of Wisconsin*, 1908. A very valuable dissertation on topics for which space was lacking in this chapter.

Concerning the systems described in this chapter (all of the following are easy to secure except No. 8). — 3. PALMER. *History of the Public Schools of New York City.* (The Macmillan Company, 1905.)

4. MARTIN, G. H. *Evolution of the Massachusetts Public School System.* (D. Appleton and Company, 1894.)

5. HINSDALE, B. A. *Horace Mann and the Common School Revival in the United States.* (Charles Scribner's Sons, 1899.) For Massachusetts.

6. UPDEGRAFF, H. *Origin of the Moving School in Massachusetts.* (Columbia University Contribution to Education, 1908.)

7. BOONE, R. G. *History of Education in Indiana.* (D. Appleton and Company, 1892.)

8. WICKERSHAM, J. P. *History of Education in Pennsylvania.* (Lancaster, Pennsylvania, 1886.)

8 *a.* HINSDALE, B. A. Documents Illustrative of American Educational History, *Report of the United States Commission of Education*, 1892–1893, pp. 1225–1414.

Concerning the Lancasterian schools. — The literature is usually not to be obtained in small libraries. Wickersham (No. 8 above) describes the Lancasterian schools of Pennsylvania, and Palmer (No. 3) those of New York. The following are important sources.

9. BOURNE, W. O. *History of the Public School Society of New York City.* (Wood and Co., New York, 1870.)

10. WIGHTMAN, J. M. *Annals of the Boston Primary School Committee.* (Rand and Avery, 1860.)

11. RUSSELL, WM. *Manual of Mutual Instruction.* (Boston, 1826.)

12. GRISCOM, JOHN. *Memoir of John Griscom.* (New York, 1859.)

PART IV. SECULARIZED ELEMENTARY EDUCATION

CHAPTER XIII

THE PESTALOZZIAN MOVEMENT IN EUROPE AND AMERICA[1]

Main points of the chapter. 1. The Pestalozzian movement was a direct continuation of the strivings for social and educational reforms which were stimulated by Rousseau's revolutionary books.

2. At first (1774–1799) Pestalozzi's endeavors were directed toward an improvement of the social condition of the lower classes through industrial education.

3. Later (1800) he turned his attention to the experimental determination of the most psychological methods of teaching elementary-school subjects. His experimental schools were famous during the first quarter of the nineteenth century.

4. His educational spirit and methods were adopted in Prussia as one phase of a national movement for social regeneration.

5. His methods were developed in England primarily for school purposes rather than for broader social purposes; hence they were highly formalized.

6. The informal Swiss and Prussian Pestalozzianism became generally known in the United States before 1860 through educational periodicals and official reports. It was adopted in a few schools.

7. Formalized English Pestalozzianism was imported into Oswego, New York, in 1860, and during the next twenty years was very generally adopted throughout the country.

The largest factor in reforming elementary-school practice. — Pestalozzi (1746–1827), inspired by Rousseau and the movement in which the latter was the chief figure, conducted

[1] Special supplementary reading: Pestalozzi, "Leonard and Gertrude." See above, p. xxiii, for further suggestions.

in Switzerland for twenty-five years (1799–1825) experimental schools which were the mecca for European and American educational leaders. The methods developed in these schools produced almost as radical reforms in teaching in elementary schools as Rousseau had proposed in educational theory. The influence exerted by Pestalozzi's writings, and by his schools and the teachers trained therein, was the largest factor in changing elementary-school practice between 1800 and 1860. To be sure, other factors coöperated with Pestalozzi's work to bring about a revolution in elementary-school work; for example, the movement for the improvement of Prussian schools which adopted Pestalozzi's methods, but which was independent of him in its origin. But the Pestalozzian movement was so large a factor that it deserves more space and emphasis than any other phase of the history of modern elementary education. Some of the innovations in practice introduced by Pestalozzi were real improvements; others, however, were no better than the very poor methods which prevailed in elementary schools in 1800.

Directly inspired by Rousseau's revolutionary books. — To understand the Pestalozzian movement it is important to appreciate its direct connection with Rousseau. Pestalozzi's words show this very clearly. He said:

> The moment Rousseau's "Émile" appeared, my visionary and highly speculative mind was enthusiastically seized by the visionary and highly speculative book. I compared the education which I enjoyed in the corner of my mother's parlor, and also in the school which I frequented, with that which Rousseau demanded for the education of his Emilius. The home as well as the public education of the whole world, and of all ranks of society, appeared to me altogether as a crippled thing, which was to find a universal remedy for its present pitiful condition in Rousseau's lofty ideas. The ideal system of liberty, also, to which Rousseau imparted fresh animation, increased in me the visionary desire for a more extended sphere of activity in which I might promote the welfare and happiness of the people. Juvenile ideas as to what it was necessary and possible to do in this respect in my native town [Zurich], induced me to abandon the clerical profession, to which I had formerly leaned, and for which I

had been destined, and caused the thought to spring up within me, that it might be possible, by the study of law, to find a career that would be likely to procure for me, sooner or later, the opportunity and means of exerting an active influence on the civil conditions of my native town and even of my native land. (3: 28.)

Pestalozzi's first educational experiments were in the training of his own child on a farm, and Rousseau's "Émile" was his guide. The *Journal* which Pestalozzi kept of this experiment is largely a running commentary on the "Émile," sometimes quoting it almost verbatim, sometimes taking exception to Rousseau's suggestions. The following quotation from the *Journal* sounds very familiar after reading the "Émile":

Lead your child out into nature, teach him on the hilltops and in the valleys. There he will listen better, and the sense of freedom will give him more strength to overcome difficulties. But in these hours of freedom let him be taught by nature rather than by you. Let him fully realize that she is the real teacher and that you, with your art, do nothing more than walk quietly by her side. Should a bird sing or an insect hum on a leaf, at once stop your talk; bird and insect are teaching him; you may be silent. (5: 45.)

On the other hand, Pestalozzi corrected Rousseau's false theories of moral training. Concerning liberty and obedience he said:

Which of these is the true position and which is the false? Liberty is good, and so is obedience. We must reconcile what Rousseau separated when, struck by the evils of unwise restraint that only tends to degrade humanity, he advocates unbounded liberty. Let us endeavor to see how far he was right and profit by his wisdom. (5: 47.)

In the following systematic discussion of the Pestalozzian movement we shall take up in order Pestalozzi's general theories, his life and work in relation to the general social movements in Switzerland, the spread of his practices particularly in Germany, England, and America, and shall devote separate chapters to the three main phases of his influence on practice, namely, industrial training for juvenile reform, object

teaching and oral methods, and the Pestalozzian formalism, including degenerate object teaching and the doctrine of proceeding from the simple to the complex.

Pestalozzian principles. *To psychologize education.*— In summarizing Pestalozzi's fundamental principles we shall note certain ones that are merely reiterations of Rousseau's ideas, and others in which Pestalozzi is more independent. The statements which are most in line with Rousseau's ideas concern basing education on a study of the child's development. The most trite of these is Pestalozzi's remark, "I desire to psychologize education." One of the things included in "psychologizing" was to be the cultivation of the child's instincts and capacities. Hence Pestalozzi said:

> Man can, at best, do no more than assist the child's nature in the effort which it makes for its own development; and to do this, so that the impressions made upon the child may always be commensurate, and in harmony, with the measure and character of the powers already unfolded in him, is the great secret of education. (3: 172.)
>
> Education . . . involves the harmonious balance of all a man's powers, and this involves the natural development of each and all. (3: 170.)
>
> Education, instead of merely considering what is to be imparted to children, ought to consider first what they may be said already to possess, if not as a developed, at least as an involved faculty capable of development. Or if, instead of speaking thus in the abstract, we will but recollect that it is to the great Author of life that man owes the possession, and is responsible for the use, of his innate faculties, education should not only decide what is to be made of a child, but rather inquire, what is a child qualified for, what is his destiny, as a created and responsible being; what are his faculties as a rational and moral being; what are the means pointed out for their perfection, and the end held out as the highest object of their efforts? They embrace the rightful claims of all classes to a general diffusion of useful knowledge, a careful development of the intellect, and judicious attention to all the faculties of man, physical, intellectual and moral.

Four meanings of "development of faculties." — The phrase "development of the faculties" became a byword with the followers of Pestalozzi and was used with various meanings. Four of these may be distinguished:

1. The first meaning is the *appearance of an instinct or capacity*, such as the instinct to walk, which is not present in the child at birth, but is "delayed" in appearance or "development." As Rousseau said, it does more harm than good to try to teach children to walk before the instinct has appeared or "developed." On this basis of delayed instincts or capacities Rousseau and Pestalozzi both rejected the teaching of history to children because, they claimed, the capacity to understand the moral issues in history does not appear in the child until adolescence.

2. The second meaning of the phrase "development of a faculty" is its *natural maturing or growth*, as illustrated in the maturing of the child's capacities for oral speech — first a few cries, then a more and more elaborate babbling, then the selection by the child of certain of these sounds to have definite meanings, then the imitation "just for fun" of sounds used by adults, then the imitation of sounds used by adults to express the meanings that adults express. Another example of development in this sense would be the changes that take place in boys' voices at the beginning of adolescence, during which period it may be unwise or almost impossible to give them vocal training. Rousseau seemed to have a very clear appreciation of this meaning of development, and Pestalozzi emphasized it in the quotations made above, but the latter was not very specific or clear in his applications.

3. The third meaning of development of a faculty is the *perfecting of some special capacity through training*, the acquisition of some *particular* kind of skill, such as facility in using the multiplication table, or skill in drawing or writing. Pestalozzi himself often used the phrase "development of faculty" in this sense; for example, in considering the best way to learn number combinations, whether by the old method of memorizing the multiplication table, or by studying groups of objects, dividing squares, etc.

4. The fourth meaning of "development of faculty" is the *training of general powers*, such as the intellectual, moral, and physical powers, or the perceiving, imagining, and reasoning faculties, or the faculties of form, number, and language, etc. Pestalozzi often used the phrase in this sense, and, unfortunately, it was the way in which his fundamental statement was used by those practical followers who imitated his method. An example occurs in the report of the committee invited by the Board of Education of Oswego, New York, to inspect the school in 1862. Praising Pestalozzi, the committee said, "He sought to develop and strengthen the faculties of the child." We know that they intended this fourth meaning, for they said further, "He wished that the *art of observing* should be acquired. He thought *the thing perceived of less importance than the cultivation of the perceptive powers*." As a consequence there was established the dreary grind of "sense training," of which more will be said in a later

AN EIGHTEENTH-CENTURY SCHOOLROOM

Reproduced by permission of the author from Monroe's "Text Book in the History of Education" (The Macmillan Company)

chapter. Pestalozzi was also enthusiastic about the formal disciplinary value of arithmetic, which, for this reason, he considered the most important subject in the elementary curriculum.

The emphasis placed by Rousseau and Pestalozzi on the necessity of studying the appearing, maturing, and cultivating of the child's *special* instincts and capacities was very fruitful and beneficial. On the other hand, the emphasis placed by the Pestalozzians on the "harmonious development of all the faculties," conceived as *general* powers, was both beneficial and harmful: beneficial in calling attention to a great many possibilities of education that the old narrow curriculum had neglected; harmful in its suggestion of the mere formal disciplining of powers with material that was not of particular social value.

Home spirit of strict but loving discipline to dominate school. — One of the most characteristic ideas in Pestalozzi's doctrine was that the spirit of the well-regulated home should dominate the school. Rousseau had idealized orderly domesticity in the "New Héloïse," and the responsibilities of parental education in the "Émile"; but the emphasis placed by Pestalozzi on a reform of the school through the discipline of a "thinking love" was one of the most valuable factors in the widespread influence of Pestalozzianism. Pestalozzi was influenced to maintain this idea not only by the teachings of Rousseau but also by the natural indications of his own heart. On one occasion a peasant, the father of one of Pestalozzi's pupils, visiting the school, said, "Why, this is not a school but a family."

> That is the greatest praise you can give me [answered Pestalozzi]. I have succeeded, thank God, in showing the world that there must be no gulf between the home and the school, and that the latter is only useful to education in so far as it develops the sentiments and the virtues which lend the charm and value to family life. (5: 210.)

Describing the principles on which he proceeded in treating poor children, he said:

Endeavor, first, to broaden your children's sympathies, and, by satisfying their daily needs, to bring love and kindness into such increasing contact with their impressions and activity, that these sentiments may be engrafted in their hearts. . . . (5: 157.)

As we have seen on page 275, this home spirit was to include strict discipline as well as loving-kindness. Considerable liberty was allowed, as in the home, but obedience was also required. Thus, as Pestalozzi said in "Leonard and Gertrude," his own

principles in regard to education were very strict, and were founded on an accurate knowledge of the world. He maintained that love was only useful in the education of man when in conjunction with fear; for they must learn to root out thorns and thistles, which they never do of their own accord, but only under compulsion, and in consequence of training. (1: 157.)

Elementary education to regenerate lower classes. — One phase of this Pestalozzian spirit of love was enthusiasm for the education of the poor. Pestalozzi said:

I . . . desire to facilitate in a general manner the acquisition of the elements of all arts and sciences [by] the lower classes, and to open to the faculties of the poor and weak the doors to art, which are the doors to humanity, and, if I can, burn down the barricade which, in spite of the empty boasts of our vaunted general enlightenment, puts the middle classes of Europe, with respect to individual power, far behind savages, in excluding ten men out of eleven from the right of every member of society to instruction, or at any [rate] from the possibility of making use of that instruction. (6: 142.)

Experimentation to discover the correct methods of teaching. — To discover the correct methods of teaching by experimentation was another characteristic idea in Pestalozzi's theory. In one of his last publications he said:

And so I end my dying strain with the words with which I began it: Prove all things and hold fast to that which is good. If anything better has ripened in you, add it in truth and love to what in truth and love I have endeavored to give you in these pages. . . . I ask nothing better than to be put on one side, and replaced by others, in all matters that others understand better than I. (3: 292.)

This attitude of investigation and experimentation was carried to an extreme, however, in some of the work. Thus one of Pestalozzi's assistants said:

> Even in our pedagogics, he would not permit us to make use of the results of the experience of other times or other countries; we were to read nothing, but discover everything for ourselves. Hence the whole strength of the Institute was always devoted to experiments. (3: 300.)

Consequently, as one of his contemporary critics (von Raumer) said:

> He committed many mistakes usual with self-taught men. He wants the historical basis; things which others have discovered long before appear to him to be quite new when thought of by himself or any one of his teachers. He also torments himself to invent things which had been invented and brought to perfection long before, and might have been used by him if he had only known of them. (3: 301.)

Thus, while the craze for experimentation was beneficial as the basis of a revolution in elementary instruction, it led at the same time to many grotesque errors.

The discussion to this point has demonstrated Pestalozzi's intimate relation to Rousseau, and outlined the fundamental general ideas in Pestalozzi's work; namely, (1) education to be psychologized; (2) to consist of a development of the child's instincts and capacities; (3) to be dominated by the home spirit of strict but loving discipline; (4) to be universalized as a basis for regenerating the lower classes of society; (5) to be guided by experimental search for the best methods.

A more concrete phase of the movement will now be described by outlining Pestalozzi's life and work in relation to the social conditions in Switzerland.

Pestalozzi's career in relation to social development in Switzerland. *Educational advantages enjoyed in Zurich.*—Henry Pestalozzi was born in 1746 in Zurich. Although his widowed mother had little means, by practicing strict economy she was able to give Pestalozzi all the benefits of the unusual educational opportunities which existed in Zurich. These

opportunities were due to the presence in the University of Zurich of some of the most famous professors and writers in German history. The best known of these Zurich professors was Johann J. Bodemer (1698–1783), who taught history and politics for fifty years, devoting especial attention to the history and institutions of Switzerland and inspiring enthusiasm for justice, liberty, and the simple life. The study of modern literatures, especially the English, was also emphasized. Thus Zurich became one of the chief centers for the revival of German literature, such leaders as Klopstock, Wieland, and Kleist associating themselves there with Bodemer. Kleist said that whereas in Berlin there were only three or four men of taste or genius, in little Zurich there were twenty or thirty.

Pestalozzi decided to become a pastor like his grandfather, with whom he spent his summers in the country. He entered the University in 1760 and immediately took high rank as a scholar, the university printing a translation which he had made of a speech by Demosthenes. After studying theology for a time he proved unsuccessful as a preacher and undertook the study of law. Speaking of the influence exerted by his professors, Pestalozzi said:

> The spirit of the public teaching in my native town, though eminently scientific, was calculated to make us lose sight of the realities of life, and lead us into the land of dreams. . . . We had decided to live for nothing but independence, well-doing, sacrifice, and love of country, but we were without the practical knowledge necessary for reaching these ends. (5: 10.)

Strivings for Swiss social reform influenced by Rousseau.— Pestalozzi was moved also by the unfortunate condition of the peasants, which he learned to know on visits to his grandfather and uncle. The peasants complained of the burgesses of Zurich, who would not admit them to citizenship. One day when Pestalozzi was boasting of the liberty of the Swiss peasants, his uncle said, "Don't talk so much about

their liberty; they are no more free here than in Livonia in [Russia]." Country districts were dominated by the towns, in which affairs were controlled by a number of privileged families. In Zurich some thirteen trade guilds monopolized the industry and commerce of the place. The same conflict between the privileged classes and the masses which Rousseau represented in France existed in Switzerland, and the condemnation of the "Émile" and the "Social Contract" by the Genevan government called forth vigorous protests from the people in Geneva and the patriotic students in Zurich who worshiped Rousseau. The utterances and actions of the students became so radical that several of them, including Pestalozzi, were imprisoned by the magistrates. Discouraged by this check to their revolutionary schemes, Pestalozzi in common with other students decided to undertake another Utopian reform which had been praised by Rousseau — to turn farmer and seek opportunities for social usefulness among the peasants.

Pestalozzi's failure as a farmer.— Accordingly he spent a year learning farming on an estate of an eminent agriculturalist, bought some farm land, married in 1769 the very intelligent and well-educated daughter of a Zurich merchant, and settled down to be a farmer. But almost from the first his lack of practical business ability was manifested, and in six years (by 1775) he had used up his own funds and those of his wife, and the undertaking was a complete failure. "The dream of my life," he said, "the hope of making my house the center of a wide sphere of benevolent activity, was gone."

Neuhof experiment (1774–1780) in industrial education of vagrant children.— Meanwhile he had been educating his little boy (born 1770) with the intention of applying Rousseau's ideas. He wrote a description of his methods in his *Journal.* Influenced by his care for his own child, and by his reaction from the industrial enterprise in which he had failed, he decided to use his energies in training the neglected children of the surrounding country. In 1774 he began to

take in beggar children, endeavoring to teach them to maintain themselves by farming and spinning. With the help of donations this experiment continued to 1780, when it had to be abandoned because bankrupt, Pestalozzi now being as poor as the beggars who had excited his pity. For several years after 1780 Pestalozzi and his family were maintained by a servant woman, Elizabeth Naef, who sympathized with him because of his philanthropy and voluntarily worked and managed the farm so as to bring in a scanty income.

Literary activity for social and educational reform. — Still confident of the value of his theories for improving the condition of the poor by education, Pestalozzi began a period of literary activity. His first educational publication, "The Evening Hour of a Hermit," was a collection of short, pithy aphorisms about education. This secured little notice, but a few months later (1781) his "Leonard and Gertrude," a simple little story woven around the lives of the shiftless peasants among whom he lived, had an immediate and immense success and brought him international fame. The public, however, accepted "Leonard and Gertrude" as an interesting novel and largely missed its educational purpose. To emphasize the latter, Pestalozzi wrote a number of continuations or commentaries on the original, but these did not enjoy the same popularity. For one year (1782) he conducted a newspaper, the *Swiss News*, which contained discussions of his educational schemes, and other plans for social reform. From 1787 to 1797 he worked on his farm and published nothing, although he wrote an essay on the French Revolution which was taking place and in which he took a great interest. In 1792 he began a correspondence with Emanuel Fellenberg, who was later to carry out successfully the plan for industrial education that Pestalozzi had failed with at Neuhof. This correspondence concerned the French Revolution in its relation to Switzerland, Pestalozzi fearing the intervention of France in Swiss affairs.

Swiss revolution inaugurated by French; Pestalozzi's opportunity. — In 1798 the French invaded Switzerland and set up, in place of the loose confederation of cantons with their semifeudal organization, the Swiss Republic with a strong central government modeled after that of France. This Swiss revolution of 1798 marked the turning point in Pestalozzi's career. Before it he had labored almost unaided for the regeneration of the poor through industrial education. After it he was mainly engaged in conducting experimental schools in which his main interest was not industrial education for the poor, but a new psychological basis for teaching the ordinary elementary-school subjects. His work with a group of orphan children at Stanz marks the transition.

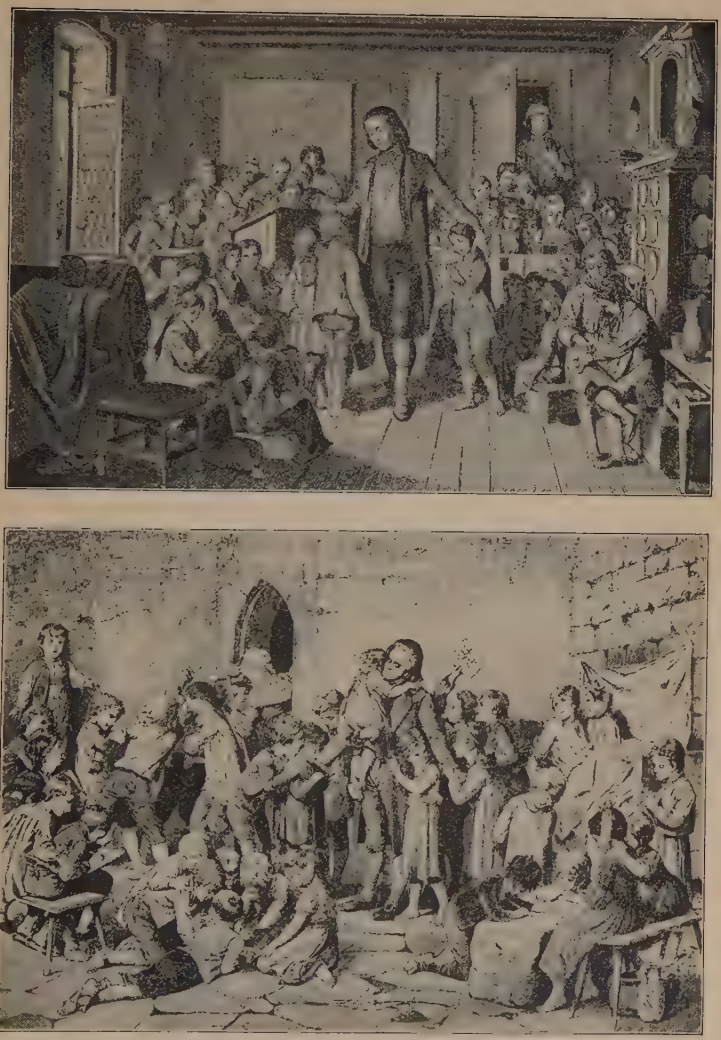
Although at first Pestalozzi had feared the interference of the French, when he saw how the new government swept away oligarchy, family and local privileges, and numerous customs which had interfered with the equality and liberty of the Swiss people, he became enthusiastic for the new régime and offered his services in connection with education. But the new government was not so cordially received by all the Swiss, the opposition being particularly strong in the secluded, rough forest cantons of Schwyz, Uri, and Unterwalden, where the simple life, popular assemblies, and the patriotic spirit of William Tell still prevailed. These cantons refused to take the oath of allegiance to the new government and offered such stubborn resistance to the French troops that the latter, infuriated, instituted a general massacre (September 9, 1798) of men, women, and children — of even the old and infirm who had assembled in the church at Stanz, the chief town of the district. The report to the French minister showed:

> Dead, 259 men, 102 women, 25 children.
> Buildings burned, 240 dwelling houses, 288 barns, 144 small outhouses.
> Approximate value of buildings and furniture destroyed, £85,000.

There were 169 orphans and 237 other children unprovided for because of the utter destitution of their families.

Stanz (1799), transition from interest in industrial education to elementary-school methods. — To provide for these children the government established an orphan asylum in a convent building in Stanz and put Pestalozzi in charge. Here he labored for five months (January–June, 1799) with some eighty children, until the buildings were taken by the French troops as a hospital. Pestalozzi planned to carry out his scheme of developing the children by manual labor, with a few hours of study each day; but owing to the uncompleted condition of the buildings, the lack of equipment, and the hard winter, the manual labor was tardily developed and Pestalozzi devoted considerable time to oral instruction in spelling and arithmetic. By the middle of April, however, he wrote: "The hours of work and study are now fixed as follows: from six to eight, lessons; then manual work till four in the afternoon; then lessons again till eight. The difficulty of combining work and instruction grows less every day." Though neither labor nor learning made much progress at Stanz, the experiment was remarkable for the moral development made by the children under the strict but loving care of Pestalozzi, who lived in their midst and worked so incessantly that his health broke down. The Stanz incident is the finest example of the Pestalozzian method of regeneration through a "thinking love." It was his last significant attempt to carry out his scheme of industrial training. Henceforth his time was spent in connection with the work of the ordinary elementary school (see **5**: 149 for Pestalozzi's letter describing the Stanz situation).

Burgdorf (1799–1804); best period of experimentation with school subjects.—The next five years of Pestalozzi's life were spent in Burgdorf, where he did the most original and best work in developing elementary education. At first he secured a position teaching in the school kept by a shoemaker for



TWO PICTURES OF PESTALOZZI'S SCHOOL AT STANZ

Showing conceptions of different artists. The lower picture probably represents the real conditions better. Reproduced by courtesy of the publisher from Barnard's "Pestalozzi and his Educational System." (C. W. Bardeen, Syracuse)

the instruction of the poorer children in the town. Here Pestalozzi taught without pay, so anxious was he to have a chance to experiment. He had half of the seventy-three children in the school under his direction, but as his instruction was largely oral and he neglected to teach the catechism, he aroused the suspicions of the parents and lost his position. Then he was allowed to teach in the A B C dame school maintained for the burgesses' children. The School Commission of Burgdorf reported in high praise of the results of his oral method, in which he used reading and arithmetic charts. His success secured him a place to teach in a class of older children (six to fifteen years) with whom he did not succeed so well. Meanwhile Pestalozzi had kept in touch with the government, and in July, 1800, the Executive Council granted him the gratuitous use of part of the old Burgdorf castle and its garden for school purposes. Here he was joined by his first helper, Kruesi, who had come to Burgdorf in charge of some thirty destitute children from the eastern part of Switzerland, which had been devastated by the war of the French against the Austrians and Prussians. The people of Burgdorf, like those of other towns removed from the scene of war, agreed to provide homes for some of these children, and Kruesi had brought them over the mountains. The school in the castle prospered, and Pestalozzi added assistant teachers — Tobler for geography and history, Buss for drawing and singing, Neef, an old Napoleonic soldier, for gymnastics, Kruesi teaching language and arithmetic.

Pestalozzi announced that he would take boarding pupils and would maintain an institute for training teachers, which he did successfully for about three and a half years. This success led to donations of money and firewood from the government and some subscriptions from private sources. Various commissions investigated the work of the school and reported favorably, and scores of visitors flocked to Burgdorf from many countries. In 1802 there were 102 persons in

the institute, including 72 pupils, 10 masters, and a number of foreigners who were studying the method. Pestalozzi published here "How Gertrude teaches her Children," his most important pedagogical treatise; a "Guide for teaching Spelling and Reading," accompanied by large movable letters; a "Book for Mothers," describing methods of object teaching.

Yverdon (1805–1825); famous but unhappy experiment.— In 1803, under the influence of Napoleon, the unitary centralized government was abolished in Switzerland and a somewhat closer federation of cantons than had existed before 1798 reëstablished. The local government of the canton in which Burgdorf was located needed the castle, and Pestalozzi had to move. For a few months he formed a partnership with Fellenberg, who was as efficient in practical affairs as Pestalozzi was inefficient. Pestalozzi and his school, however, could not endure the business-like régime which Fellenberg established and they soon separated, Pestalozzi accepting the invitation extended by the town of Yverdon to locate his school there, in the French-speaking part of Switzerland.

In Yverdon, Pestalozzi continued his institute for twenty years (1805–1825), where it enjoyed even greater fame than it did in Burgdorf. Visitors, serious and curious, came by hundreds, many making a point of seeing Pestalozzi, just as they would of seeing a lake or a glacier. At the same time the institute was involved in considerable controversy with critics, who were stimulated by the unfavorable report of a committee appointed by the Swiss Diet in 1809 to investigate the actual efficiency of the teaching rather than the validity of Pestalozzi's theories.

He had many assistant teachers, some of whom stayed only a few years and then left to establish Pestalozzian institutes in all parts of Europe. Several of these assistants were permanent, however, and they specialized in experimenting with Pestalozzi's principles in application to various subjects. Jealousies developed among them as a result of their ambitions

to be leaders in the institute, and consequently its most characteristic virtue, the Pestalozzian spirit of love and charity, disappeared, and the efficiency greatly declined. These dissensions led to the closing of the institute in 1825. Pestalozzi's last two years were spent on his farm at Neuhof, where he died in 1827.

Spread of Pestalozzianism. *Appreciation of "Leonard and Gertrude."* — The popularity of Pestalozzi's institutes and the attention which they attracted have been referred to in the preceding section. But his practical experiments were not the first part of his works to attract general notice. The publication of "Leonard and Gertrude" in 1781 in itself brought international fame. The appreciation of this book by his own country is shown by the action of the Agricultural Society of Bern, which sent him a letter of congratulation with a sum of money and a gold medal. An example of the appreciation of foreigners is the letter from Count von Zinzendorf, Chancellor to the Austrian emperor. The count wrote:

> Your projects and your attempts for the education of the poor, for the reclaiming of waifs and strays, and especially all that you claim for the instruction of the people, in a word, everything which ought to be the object of legal measures, will be of great importance to me, and I shall receive with great pleasure anything you write to me on the subject.

Queen Louisa of Prussia, years after the publication of Pestalozzi's novel, wrote in her diary:

> I am reading "Leonard and Gertrude," and enjoy transporting myself to the Swiss village. If I were my own mistress, I should at once go to Switzerland and see Pestalozzi. Would that I could take his hand, and that he might read my gratitude in my eyes! . . . With what kindness and ardor he works for the good of his fellow man! Yes, in the name of humanity I thank him with my whole heart. (5: 257.)

In 1814, when the Russian and Austrian troops, in the course of war with Napoleon, contemplated appropriating buildings in Yverdon for a hospital, Pestalozzi's personal appeal to the Russian and Austrian emperors was sufficient to have the

order countermanded. The two emperors received him respectfully and cordially, the Czar decorating him with a cross of honor, and the Austrian emperor sending him a present.

The famous educational leaders who visited and investigated Pestalozzi's institutes will be named in the discussion of the spread of his doctrines in particular countries through their influence. Besides these professional visitors there were many with more general interests, among whom are said to have been the kings of Spain, Holland, Prussia, Denmark, Württemberg, and Saxony, Prince Esterházy of Hungary, Napoleon's famous general, Ney, and Kosciusko, the Polish patriot.

The Movement in Switzerland. — We have already noticed that the Swiss national government, the local authorities at Yverdon, and private citizens contributed to the support of Pestalozzi's institutes, and that many Swiss teachers were trained in them. Pestalozzi's first and most sympathetic helper, Kruesi, was principal of the normal school at Gais from 1833 to 1844 and trained teachers in the Pestalozzian methods. Other associates performed similar services in other parts of Switzerland, but the most important and successful attempt to apply Pestalozzi's principles on a large scale was by Emanuel Fellenberg in schools at Hofwyl, which will be described in detail in the next chapter.

In some parts of Switzerland, however, there was as much suspicion and criticism of Pestalozzi's work as there was enthusiasm for it in others. This was due to the intense feelings arising from differences in political and religious beliefs. Consequently the general adoption of Pestalozzianism in Switzerland was not as rapid as in Prussia.

Pestalozzian schools a large factor in Prussian social reform. — In Prussia Pestalozzi's influence was so strong that the whole system of elementary schools was called by a Prussian educational leader, in 1846, the "Prussian-Pestalozzian system." This name is a very good one because it suggests

that Pestalozzi's influence was not entirely responsible for the Prussian system, but it was a large factor in determining its work. In Chapter X we noted that Prussia, as a benevolent monarchy, was interested in the establishment of people's schools and by 1800 had made large progress in developing the first important European national school system. Consequently Pestalozzi's experiments early attracted attention in Prussia, and private individuals and government officials hastened to study them.

Pestalozzi directly inspired Herbart and Froebel. — Among the first of the private German citizens was Herbart, one of the two most influential of Pestalozzi's disciples. He visited Burgdorf in 1799, and published an account of "Pestalozzi's Idea of an ABC of Sense Perception" (1802). Another German citizen, Gruner, visited the Burgdorf Institute and then opened a Pestalozzian school in Frankfort on the Main. Here Froebel, the second of the two greatest German disciples of Pestalozzi, began his work as a teacher. So inspired was he, that he went to Yverdon in 1808 and spent two years there studying the methods. "It soon became evident to me," he said, "that 'Pestalozzi' was to be the watchword of my life."

Prussian king interested in Burgdorf, 1803. — Many other Germans, whose names do not concern us, wrote discussions of Pestalozzi's work for German periodicals. As a consequence of this general interest the Prussian king, in 1803, appointed an envoy who spent five months at Burgdorf and rendered such a favorable report to the king that the latter authorized Pestalozzi's methods to be used in the training schools for teachers, and in 1804 authorized their use in primary schools.

General Prussian social reform following the defeat at Jena. — In October, 1806, Prussia, whose military efficiency had greatly declined since the days of Frederick the Great, was defeated by Napoleon in the battle of Jena. The country was completely demoralized, and by the treaty of peace

concluded in 1807 Prussia lost almost half of her territory, was required to pay an enormous indemnity which exhausted her resources, and was permitted to maintain a standing army of only 42,000.

In order to retrieve their losses and regenerate the country, Prussian statesmen became convinced that a complete social revolution which would improve the conditions of the common people was necessary. Although the general spirit of the monarchy had been benevolent, the social organization needed reform as badly as did that of France in 1789.

> The agricultural classes were serfs, who were bound to the land and compelled to work a certain part of each week for the lord without remuneration. The population was divided into strict social castes. Moreover, no noble could buy citizen or peasant land; no citizen, noble or peasant land; no peasant, noble or citizen land. [Statesmen] saw that the feudal system must be abolished, the peasants freed, and the restrictions which hedged about the different classes done away with, before it would be possible to arouse public spirit to a point where a great popular uprising might expel the intruder forever. (**10**: 622.)

These changes were provided for in the royal decree of October 9, 1807, which was designed "to remove every obstacle that has hitherto prevented the individual from attaining such a degree of prosperity as he was capable of reaching."

One of the most important special reforms was the establishment of compulsory military service with promotion based on merit, and the consequent creation of a trained reserve force ready to take up arms at any moment. This not only exerted a strong educative influence in disciplining the people, but in a few years resulted in a fighting machine which, under Blücher, helped in the final overthrow of Napoleon. Thus the limitation which Napoleon placed on the size of the standing army of Prussia was really a good thing for the country.

A broader elementary education one phase of this reform. — Included in this general reform movement was a scheme of broader elementary education for the common people. The

defeated king said, "We have lost in territory, in power, and in splendor; but what we have lost abroad we must endeavor to make up for at home, and hence my chief desire is that the very greatest attention be paid to the instruction of the people." (5: 257.)

Revival of interest in Pestalozzianism stimulated by Fichte. —The movement to introduce the Pestalozzian methods, which had begun before the Jena disaster, was now revived and greatly stimulated by the addresses of the great philosopher Fichte (1762–1814) in Berlin during the winter of 1807–1808. His aim was to arouse German patriotism and enthusiasm for reform. Fichte had taught in Zurich, where he became a warm personal friend of Pestalozzi and promised to exploit the latter's theories in Germany. He kept his promise in the Berlin addresses, in which he emphasized the possibilities of national regeneration to be found in education, and said:

> To the course of instruction which has been invented by Henry Pestalozzi, and which is now being carried out successfully under his direction, must we look for regeneration. . . . Pestalozzi's essential aim has been to elevate the lower classes, and efface the differences between them and the educated classes; it is not only popular education that is thus realized, but national education; and Pestalozzi's doctrine has enough power to help nations and the whole human race to rise out of the miserable state in which they have been wallowing. (6: 296.)

Prussian teachers trained at Yverdon. — The Prussian government proceeded to carry out its educational reform by sending seventeen teachers, mostly theological students, to be trained at Yverdon. Each one spent three years there at the expense of the government. When sending the first two in 1808, the German minister wrote to Pestalozzi:

> Being fully convinced of the great value of the method which you have invented and so successfully practiced, I hope that, by introducing it into our elementary schools, I may be enabled to bring about a complete reform of public instruction in our royal provinces, a reform from which I shall look for the most valuable results in the development of the people. (5: 258.)

Pestalozzian spirit and method adopted by Prussian teachers. — While some of Pestalozzi's special methods were important elements in the influence which the reformed Prussian schools exerted in bettering social conditions, it was not these methods but his spirit which was most important. In his instructions to the Prussian students the minister said they were not sent to get the mechanical side of the method, or to develop a cleverness in teaching; but he said:

> What I want you to do is to warm yourselves at the sacred fire which burns in the heart of this man so full of strength and love, whose work has remained so far below what he originally desired, below the essential idea of his life, of which the method is only a feeble product. . . . You will have reached perfection when you have clearly seen that education is an art and the most sublime and most holy art of all, and in what connection it is with the great art of the education of nations. (6: 297.)

In 1846 the centennial of Pestalozzi's birth was celebrated in Berlin. The address of a leading German educator, Diesterweg (1790–1866), on that occasion summarized the influence of Pestalozzi on the Prussian schools in the following words:

> By these men and these means, men trained in the Institution at Yverdon under Pestalozzi, the study of his publications, and the applications of his methods in the model and normal schools of Prussia after 1808, was the present Prussian or rather Prussian-Pestalozzian school system established, for he is entitled to at least half the fame of the German popular schools. . . . His experiments have secured their world-wide fame to the German schools. . . . As during Pestalozzi's life, Yverdon was a place of pilgrimage for teachers, so afterward, from Europe, America, and elsewhere, men came to observe the German and Prussian common schools. (8: 147.)

Formalized Pestalozzianism in England. — There were two chief agencies leading to a popularizing of Pestalozzian methods in England. These were (1) the publication of books on object teaching, and (2) the organization of an infant-school society to use Pestalozzian methods.

Objective methods introduced by Mayos. — The Reverend Charles Mayo (1792–1846) went to Yverdon in 1819, where he spent three years. According to Pestalozzi, he "took charge of divine service, gave lessons in religion, and was the director of the English pupils in the establishment." Returning to England in 1822, he opened a private school for children of the upper classes, which was very successful. Pestalozzi's methods were used in several subjects. Object teaching was definitely organized, and the methods outlined in a manual for teachers by Mayo's sister. This manual was published in 1830, passed through twenty-six editions, and with other books of the same kind was partially responsible for the widespread adoption in England and America of formalized object teaching, which will be described in a later chapter.

Infant-school society propagated Pestalozzianism.— There was a widespread movement for the establishment of infant schools in Scotland and England between 1810 and 1830, under the influence of Robert Owen, Wilderspin, Stow, and others. The Mayos were interested in this movement as well as in Pestalozzianism, and coöperated actively with others in organizing in 1836 the Home and Colonial Infant School Society. This society established a model infant school in which Pestalozzian methods were used, and a training college for teachers. Miss Mayo was connected with the school for a long time. Herman Kruesi (1817–1902), son of Pestalozzi's first associate at Burgdorf, taught in this school for five years before coming to America. One of the training teachers, a Miss Jones, was brought to Oswego, New York, in 1860, to introduce the Pestalozzian methods. In his work on Pestalozzi, written about 1875, Kruesi said, "The influence of this school upon education in England can scarcely be overstated. It has sent out more than four thousand well-trained teachers to take their places in the elementary schools." (**4**: *227.*)

Pestalozzianism in America. — There are three fairly distinct movements in American Pestalozzianism: (1) the importing in 1806 of one of Pestalozzi's associates, Neef, to teach in Philadelphia; (2) the general popularizing of Swiss and Prussian Pestalozzianism by means of publications between 1820 and 1860; (3) the direct importation of English Pestalozzianism into Oswego, New York, in 1860.

Pestalozzian teacher imported in 1806, Neef. — The importing of Joseph Neef (1770–1854), while very interesting, need not be treated at length because it exerted little influence. Neef, a retired Napoleonic soldier, had been one of the most popular instructors at Burgdorf. When William McClure (1763–1840), a wealthy Scotch philanthropist, desired to introduce Pestalozzianism in America, Pestalozzi recommended Neef as the best teacher to employ. McClure paid Neef to come to America and open a school in Philadelphia, where he taught for a few years about 1809. He then went West and taught in Louisville, Kentucky, and New Harmony, Indiana. He died in New Harmony.

Pestalozzian theories diffused by periodicals and official reports. — Before 1860 (with the exception of Warren Colburn's arithmetic, 1821) there was no general adoption of Pestalozzian methods in American schools, but considerable information concerning their use in European schools was diffused through pedagogical periodicals and reports by investigators.

Early American educational periodicals. — From about 1820, pedagogical periodicals played an important part in influencing educational opinion in the United States. The most important among these were:

1. *The Academician*, 1818–1820. Twenty-five numbers edited by Albert and John Picket.

2. *The* (first) *American Journal of Education*, 1826–1831. 5 vols., Edited by William Russell. Continued as

3. *The American Annals of Education*, 1831–1839. 9 vols. Edited at first by W. C. Woodbridge.

4. *The Quarterly Register*, 1829–1843. 15 vols. Related especially to religious education.

5. *The Common School Journal*, 1838–1848. 10 vols. Edited by Horace Mann.

6. (Barnard's) *American Journal of Education*, 1855–1881. 31 vols. Edited by Henry Barnard. "The most encyclopedic work on education in any tongue."

Of the periodicals published before Barnard's, the first *American Journal* and the *American Annals* are the most important from the standpoint of diffusing a knowledge of Pestalozzianism as well as of other European educational movements. William Russell, the editor of the first *American Journal*, taught elocution and oratory at Harvard and other colleges, and from 1849 to 1857 conducted a private Pestalozzian normal school in New Hampshire. His *Journal* contained translations of Pestalozzi's writings, and letters descriptive of Fellenberg's manual-labor schools at Hofwyl, Switzerland. These letters were written by William C. Woodbridge (1794–1845), who continued Russell's *Journal* as the *American Annals*. Woodbridge spent a year in Europe in 1820, and four years more beginning 1825, each time devoting much energy to the investigation of educational conditions. The *Annals* contained many records of his observations. He was particularly enthusiastic about the work of Pestalozzi and Fellenberg. He published textbooks in geography (1824, 1833, etc.), some of which were based on the Pestalozzian principles. He inspired Lowell Mason to introduce Pestalozzian methods of teaching music in the Boston public schools about 1836.

Henry Barnard (1811–1900), by means of his *American Journal* and other publications, stimulated the introduction of Pestalozzian methods. As superintendent of the schools of Connecticut (1838) he emphasized these methods in teachers' institutes, in the Connecticut *Common School Journal* (1838–1842), and in special monographs. His "Pestalozzi and Pestalozzianism," first published in 1858, is to-day, in its

revised form under the title "Pestalozzi and his Educational System," the best source of information in English on this subject.

Reports on European schools published in America were very influential in calling the attention of American educators to the improvements in elementary-school practice which had been instituted by Pestalozzi and his followers. Most of these reports were made by official investigators, but there was one of an *unofficial* character which was perhaps the most influential of all. It was the work of Professor John Griscom of New York, and was described in these words by Henry Barnard:

> In 1818 and in 1819, Professor John Griscom spent a year in the most industrious and thoughtful inspection of schools, colleges, and charitable institutions of Great Britain, France, Switzerland, Italy, and Holland, and published an account of the same in two volumes under the title of "A Year in Europe." No one volume of the first half of the nineteenth century had so wide an influence on the development of our educational, reformatory, and preventative measures, directly and indirectly, as this. (**8**: 399.)

The most important among the *official reports* on European schools are the following:

Translation of Report on the State of Public Instruction in Prussia, by Victor Cousin. This report to the French government was written in 1831, and translated into English in 1834. It was reprinted for distribution by several states, and thus became widely known.

The report of Professor Calvin E. Stowe to the Ohio legislature in 1839, on *Elementary Education in Europe*. The Ohio legislature distributed this report to every district in the state, and it was republished and extensively circulated by the legislatures of Pennsylvania, Michigan, Massachusetts, North Carolina, and Virginia.

The report of President Bache of the Girard College for Orphans (Philadelphia) in 1839 on *Education in Europe*. About two hundred pages were devoted to elementary education, with an especially enthusiastic account of the Pestalozzian methods as used in the schools of Holland.

The famous seventh report of Horace Mann to the Massachusetts Board of Education in 1843, based on his own observations in Europe.

Important parts of all these American reports, together with some of his own researches and other material, were published by Henry Barnard in 1854 (second edition) under the title *National Education in Europe.*

As a result of the general attention attracted to the Pestalozzian reforms by the periodical literature and official reports described above, Pestalozzian methods were introduced into several individual schools and some of the normal schools of New England. These reforms, however, were either not sufficiently radical, or they were not sufficiently advertised to secure general attention, approval, and imitation throughout the country. It was not until 1860 that radical steps for the adoption of Pestalozzianism were taken, when what is known as the Oswego movement began.

Oswego movement; English Pestalozzianism imported, 1860. — The importation of the Pestalozzian methods of the Home and Colonial School Society into the United States is the most striking development in American elementary education during the middle of the nineteenth century. The movement began at Oswego, New York, under Superintendent Edward A. Sheldon (1823–1897) in 1860, and in a few years spread over the country. Before this date English Pestalozzianism had been known, if not used, in Toronto, Canada, and it was there that Sheldon, while observing a collection of method materials exhibited in an educational museum, conceived the idea of copying the methods in Oswego.

Mr. Sheldon began his educational work in Oswego in 1848 by establishing a "ragged school" for poor and neglected children, thus early exhibiting an interest in education very similar to that of Pestalozzi himself. Mr. Sheldon became superintendent of the public schools of Oswego in 1853. As an intelligent and efficient superintendent he was interested in improving the schools, and was no doubt familiar with the method of informal object teaching described in the current pedagogical literature and used in some of the New England schools. But the completely developed system of

the English Home and Colonial School Society, which he saw in the Toronto museum, appealed to him as particularly practicable, and he immediately took the following steps to model his schools after those of this society: (1) apparatus and books were imported from London in 1860; (2) a training class for teachers was organized, and a training teacher, Miss Jones, imported from England in 1861; (3) Herman Kruesi, Jr., who had come to the United States in 1852, was engaged to teach in the training school in 1862. By these means the English methods were soon firmly established in the Oswego public schools.

Oswego methods well advertised, popularized, imitated.— The Oswego methods were unusually well advertised and exploited. As a consequence they quite overshadowed the developments of the more informal Pestalozzianism, which had found a place in some of the New England schools at an earlier date. Important factors in this popularizing were the following: (1) Upon invitation of the Oswego Board of Education a committee of leading educators of the country examined the schools in February, 1862. They presented a favorable report which contained the principles of Pestalozzi and a description of the examination exercises. This report was published in Barnard's *American Journal* in 1863. (2) Mr. Sheldon read a paper on object teaching at the National Teachers Association in 1863. (3) In 1864 this association appointed a committee to investigate the Oswego system, which made a critical but favorable report in 1865.

A further means of spreading the Oswego methods was their adoption in normal schools. The period immediately following 1860 was characterized by the establishment of scores of state and city normal schools, particularly in the Middle West. The Oswego training school was made a state normal school in 1866, at the same time that several others were established in New York. These schools were taught largely by training teachers from Oswego. Similarly, in many

of the normal schools of the Middle West, in Ohio, Indiana, Wisconsin, Michigan, etc., Oswego graduates were employed, and prospective teachers were trained in the Oswego methods.

Oswego methods not universally approved. — The Oswego methods met with very severe criticism as well as wide adoption. Much of this criticism was based entirely on conservatism; but there was at least one critic whose basis was scientific, namely, Dr. H. B. Wilbur, superintendent of the New York State Asylum for Idiots. His vigorous attacks in papers before the New York and National Teachers Associations stimulated interest in the Oswego methods, however, instead of discrediting them. His criticisms were very similar to those passed on the same methods in England by Herbert Spencer in the second chapter of his work on education, published in 1861. It is interesting to note that subsequent developments in educational psychology and methods of teaching have been away from the Home and Colonial Society or Oswego methods in the direction of Dr. Wilbur's suggestions. These methods will be discussed in detail in later chapters.

Three special phases of Pestalozzian methods to be discussed. — This will conclude our general discussion of the Pestalozzian movement. The fundamental principles of Pestalozzi's reforms, and their widespread adoption in Prussia, England, and the United States, have been described. There are three special aspects of Pestalozzian school practice which deserve consideration in separate chapters. The first of these is Pestalozzian industrial education for juvenile reform, which was its author's principal interest up to the Burgdorf period (1799). The second is Pestalozzian object teaching and oral instruction, which includes the beneficial influence on the methods of teaching language, elementary science, geography, and primary arithmetic. The third might be called Pestalozzian formalism, and includes pernicious developments in the form of degenerate object teaching, and the application of the principle of proceeding from the simple to the complex.

BIBLIOGRAPHICAL NOTES

There is a large body of easily obtainable, very satisfactory, concrete material on the Pestalozzian movement.

Concerning Pestalozzi. — 1. PESTALOZZI, HENRY. *Leonard and Gertrude.* (D. C. Heath & Co.) See above, p. xxiii, for further statement.

2. PESTALOZZI, HENRY. *How Gertrude teaches her children.* (C. W. Bardeen, Syracuse, 1894.) The best account by Pestalozzi of his own methods, but dry and uninteresting as compared with *Leonard and Gertrude.*

3. HOLMAN, H. *Pestalozzi, his Life and Work.* (Longmans, Green, & Co., 1908.) The best book for general purposes. Well arranged from a broad standpoint. Marred by typographical errors, often in dates.

4. KRUESI, H., Jr. *Pestalozzi, his Life, Work, and Influence.* (American Book Company, 1875.) Like No. 3 above, but older. Contains some material on American Pestalozzianism.

5. GUIMPS, ROGER DE. *Pestalozzi, his Aim and Work.* (D. Appleton and Company, 1890.) More complete than Nos. 3 and 4. Best for details.

6. PINLOCHE, A. *Pestalozzi, and the Modern Elementary School.* (Charles Scribner's Sons, 1901.) Abstract and technical.

7. QUICK, R. H. *Educational Reformers.* (D. Appleton and Company, 1890.) Chap. xvi. A very readable interpretative account of Pestalozzi's life and work.

Concerning the Pestalozzian movement generally. — 8. BARNARD, H. *Pestalozzi and his Educational System.* (C. W. Bardeen, Syracuse, n.d.) A mine of information concerning all aspects of the Pestalozzian movement in Europe and America. Do not confuse with *Pestalozzi and Pestalozzianism*, which was an earlier and less valuable work.

Concerning Prussian Pestalozzianism. — See above, No. 4, chap. ii; No. 5, pp. 257–264; No. 6, pp. 289–300; No. 8, pp. 145–388. See also the reports and journals referred to above in the text, pp. 297–300.

Concerning English Pestalozzianism. — See above, No. 3, pp. 312–318; No. 4, pp. 219–227; No. 8, pp. 499–510.

Concerning American Pestalozzianism. — See above, No. 4, pp. 228–248; No. 8, pp. 389–498.

9. MONROE, W. S. *The Pestalozzian Movement in the United States.* (C. W. Bardeen, Syracuse, 1907.)

Also referred to in the chapter. — 10. ROBINSON, J. H. *History of Western Europe.* (Ginn and Company.)

CHAPTER XIV

PESTALOZZIAN INDUSTRIAL EDUCATION FOR JUVENILE REFORM

Main points of the chapter. — 1. Since the sixteenth century the necessity of providing industrial training for juvenile delinquents has been appreciated by statesmen.

2. American colonial laws requiring such training were direct copies of antecedent English laws.

3. The Napoleonic wars increased the seriousness of the problem in continental Europe.

4. Pestalozzi showed the way to a solution by advocating the organization of industrial training in public schools and special institutions, which should (1) reproduce the spirit and organization of an ideal peasant's or artisan's home, and (2) give direct training in domestic industries, farming, and handicrafts.

5. Fellenberg maintained in Switzerland a model institution (1806–1844) which proved the practicability of Pestalozzi's scheme.

6. This model was quite generally imitated in European countries in the first half of the nineteenth century, in juvenile reformatories.

7. American juvenile reformatories were not generally organized on the Pestalozzian basis until the last quarter of the nineteenth century.

8. Pestalozzian industrial training (that is, direct training in industrial processes) is now competing with manual training for a place in American public schools.

One of the most important phases of Pestalozzi's influence. — The first of the three special phases of Pestalozzian methods which we shall study is the reformation of vagrant and delinquent children by means of industrial training. Pestalozzi's first interest in education as a means of social reform was along this line, and his theories as embodied in the schools of Emanuel Fellenberg and his imitators had a wide influence on practice during the nineteenth century.

Summary of the movement by Barnard, 1854. — The following summary of this influence appeared in Henry Barnard's "National Education in Europe," which also contained a great many details concerning the development of the movement in various European countries. (1 : 487.)

Napoleonic wars increased vagrancy in European countries.

The frequent wars in which the several states of Europe have been engaged, by carrying desolation into the home, field, and the workshop, have multiplied the number of orphan and penniless children beyond the ordinary causes of such visitations, and at the same time, by weakening the bonds of law and virtue, have increased the temptations to a vicious life, and thus swelled the ranks of juvenile criminality. The extreme severity, and almost uninterrupted succession of belligerent operations, growing out of the revolutionary movement of France, left at its close, in every continental state, a larger number than ever before, of poor neglected and vicious children to care for, which arrested the attention of government and benevolent individuals, and led to many interesting experiments as to the best means of relief and reformation.

Switzerland devised new means of relief and reformation.

To Switzerland belongs the credit of having first applied the principles of domestic and agricultural training to the reformation of young criminals, and to the still higher purpose of preventing pauperism and crime, by incorporating these principles into the early education of orphan, pauper, and neglected children. The Orphan House of Pestalozzi at Neuhof, opened in 1775, in which he lived with his pupils as a friend, pastor, and teacher, and in which he expended all his limited means; the Rural School for indigent children established by Fellenberg in 1805, as an essential part of his great enterprise at Hofwyl, to demonstrate what could be done to elevate the people by a good education; the Agricultural Normal School of Vehrli, at Krutzlingen, to train a class of practical agriculturists to be skillful teachers; and the Reform School of Kuratli at Bächtelen, near Berne, for vicious and offending boys, — have all demonstrated the practicability of accustoming young persons, while engaged in their studies, to habits of useful manual labor, and the wisdom of subjecting all children, and especially the orphan and outcast, to the kindly restraints and humanizing influence of domestic life. These principles of home, farm, and shop training have been slowly recognized and introduced among the charitable, preventive, and reformatory agencies of other countries.

Cottage homes and family life replaced large barracks.

Small rural communities, arranged in families, are fast supplanting the great hospitals and asylums, where hundreds of orphans, it may be, are well fed, clothed, and lodged under salaried governors, secretaries, and keepers, but with little or nothing of that fireside education, that cultivation of the feelings, those habits of mutual help and courtesy, that plantation of delightful remembrances of innocent sports and rambles in the field, or that acquisition of ready tact in all household and rural industry, which are the distinguishing features of good New England practical home culture.

Nearly all the points to be discussed in this chapter are contained in this quotation, but the discussion will serve to bring out their significance.

General appreciation of necessity of industrial training for juvenile delinquents.— The necessity and the value of providing industrial occupation and training for orphans and for neglected and delinquent children have been generally recognized. The provisions made for such training have assumed different forms corresponding to variations in fundamental principles at different times. The Pestalozzian basis was prominent during the nineteenth century. To indicate the general character of the social problem, however, earlier provisions in England and the American colonies will be cited before discussing the Pestalozzian development.

American colonial laws required training in industry.— The early American colonists appreciated the importance of industrial training for children and in some cases provided for it by law. The necessity for this requirement and its nature was expressed in the Massachusetts law of 1642 as follows:

[The General Court of Massachusetts] taking into consideration the great neglect in many parents and masters in training up their children in learning and labor and other employments which may be profitable to the Commonwealth, do hereupon order and decree that in every town the chosen men appointed for managing the prudential affairs of the same . . . shall have power . . . to put forth [as] apprentices the children of such as shall not be able and fit to employ and bring them up

. . . and they are to take care that such as are set to keep cattle be set to some other employment withal, as spinning up on the rock, knitting, weaving tape, etc. . . . They are also to provide that a sufficient quantity of materials, as hemp, flax, etc., may be raised in their several towns, and tools and implements provided for working out the same. (**3**: 58.)

In Virginia: "in 1646 an elaborate plan for industrial education was advanced by the Assembly . . . [which] marks out the settled policy of the State in the matter of industrial training." (**3**: 355.) This law refers back to English precedents in these words:

Whereas sundry laws and statutes by Act of Parliament established, have with great wisdom ordained, for the better education of youth in honest and profitable trades and manufactures . . . that the justices of peace should, at their discretion, bind out children to tradesmen or husbandmen to be brought up in some good and lawful calling . . . be it therefore enacted by the authority of this Grand Assembly, according to the aforesaid laudable custom in the Kingdom of England. . . . [etc.]

The act provided that the commissioners of the several counties were to send two poor children from each county to James City to be "employed in the public flax houses under such master and mistresses as shall there be appointed in carding, knitting, and spinning." Special dormitories were to be built, and each county was to send food and other provisions for the children. In 1668 and other years acts were passed empowering county courts to make similar provisions for educating and employing poor children.

Antecedent provisions in English laws.—That the colonial laws requiring industrial training were reproductions of antecedent English laws of the same nature was definitely stated in the preamble of the Virginia law of 1646, which we quoted. It is maintained by some authorities that such legislation as this constituted the fundamental basis of all English legislation for elementary education down to the nineteenth century; in other words, that there is a very definite connection between legislation for poor relief and apprenticeship and legislation relative to elementary education.

The English social situation of the sixteenth and seventeenth centuries which necessitated such legislation was similar in character to the Swiss situation which confronted Pestalozzi later; namely, a very large number of unemployed, vagrant, shiftless, untrained children and adults. Many factors combined to cause the English situation, among them being the suppression of the monasteries by Henry VIII, which abolished some of the dominant institutions for poor relief; and second, the abolishing of some of the guilds by the chantry acts, which diminished another of the important forms of poor relief. Other economic factors were causes also, notably the consolidation of small farms for grazing purposes, and the consequent eviction of hundreds of small farmers who were thus deprived of their means of livelihood. As a consequence we find important legislation in the reign of Queen Elizabeth, which included the same elements to which we have called attention in the colonial laws.

Domestic industries the basis of Pestalozzian industrial education. — The Pestalozzian industrial education was originally planned to meet industrial conditions which existed in places where factory systems had not developed; in other words, it was based on the conditions of domestic industries and handicrafts which prevailed generally down to the beginning of the nineteenth century. The factory system with the attendant industrial and social revolution necessitated a change in the type of industrial work but not in the general scheme which Pestalozzi advocated.

Factories did not destroy possibilities of Pestalozzi's scheme. — Factories were early introduced into Switzerland in certain select districts, and Pestalozzi himself commented on the new and peculiar social problems which they created. But many parts of Switzerland continued in the stage of home or domestic industries and handicrafts, even as they do to the present day. The same was true of the United States during the early nineteenth century. The more primitive forms of

industry continued to be practiced in some places at the same time that the factory development was dominant in others.

Included in the domestic industries and the handicrafts were farming, work with textiles, namely, spinning, weaving, and dyeing of cotton and wool, and work with wood, metal, and leather. Examples of leather and metal work were the shoemaking and nail and tack making which many New England farmers engaged in at home during the winter months. The early Pestalozzian industrial education emphasized especially farming and work with textiles. In the later development, under Fellenberg, other trades were taught. The enormous development of textile factories soon eliminated this form of labor from such schemes of education, but there remain, even at the present day, many forms of manual labor which are suited to the general purposes of the Pestalozzian industrial education.

Moreover, many intellectual and social leaders who have been impressed with the social evils that have attended factory development, have idealized the former conditions of industry and have endeavored to reproduce them on a limited scale. This endeavor is represented in the arts-and-crafts movement of the present day. Many who consider this reaction against the factory system to be Utopian, believe, however, in the educative value of industrial training along the lines of domestic activities, agriculture, and handicrafts.

Pestalozzi's writings described the degraded condition of Swiss peasantry. — Two phases of Pestalozzi's own work directly related to industrial education were the publication of "Leonard and Gertrude" (1781) and his experiments at Neuhof and Stanz. Every student should spend a few hours reading "Leonard and Gertrude," to get an appreciation of the low moral standards which prevailed in the Swiss villages.

The typical village which Pestalozzi described was governed by semifeudal customs, being under the control of a nobleman who lived in a castle outside of the town. Owing to the

dishonest administration and oppression by his subordinates, the most degraded conditions had developed. The elements of viciousness in this life, as described by Pestalozzi, included all forms of public and private dishonesty, graft and oppression, intrigue and perjury, cheating and lying, gambling, drunkenness, hypocrisy in religious matters, superstition, — including belief in witchcraft and ghosts, — domestic disorder, idleness, laziness, general shiftlessness, and filthiness.

In contrast with all these, Pestalozzi presented examples of possible social reforms which would result in a fair, honest, and efficient management of the public affairs, in real piety and charity, domestic peace, cleanliness and order, appreciation of responsibility, industry, economy and general thrift, and more intelligent methods of labor.

Condition of neglected and vagrant children. — Other striking examples of the prevailing social conditions are contained in Pestalozzi's descriptions of the individual children in his establishments at Neuhof and Stanz. The following are quoted from his list of children at Stanz.

Boys

1. Jacob Baggenstoss, fifteen, of Stanzstad; father dead, mother living; good health, little capacity; can do nothing else but spin cotton; accustomed to begging.

2. Francis Joseph Businger, fourteen, of Stanz; father living, mother dead; good health, good capacity, and good manners; does not know his ABC; can spin cotton; very poor.

Girls

1. Anna Josephine Armstad, fifteen, of Stanz; father dead, mother living; healthy, fair capacity, is beginning to read, and can spin; extremely poor.

2. Clara Waser, twelve, of Stanzstad; father living, mother dead; healthy, fair capacity, fond of study, does not know her ABC; can spin; accustomed to begging. (7: 136.)

These examples and others show that many of the children had not even profited by the meager instruction offered in the village schools. When we recall that this instruction consisted

in a bare memorizing of the catechism and the acquirement of a stumbling facility in reading, we see how hopelessly inadequate it was to cope with the social conditions that Pestalozzi described.

School to reproduce conditions of ideal home. — Pestalozzi's plan for social reform through training in domestic industries was described in "Leonard and Gertrude." The central idea was that the school should reproduce the typical conditions of a well-ordered peasant's or artisan's home. This idea is expressed in the following quotations:

> The school ought really to stand in the closest connection with the life of the home, instead of, as now, in strong contradiction to it. . . . The school ought to be brought into harmony with the developing influence of domestic life. . . . All verbal instruction, in so far as it aims at true human wisdom and at the highest goal of this wisdom, true religion, ought to be subordinated to a constant training in practical domestic labor.

Domestic labor in Gertrude's home. — The home of Gertrude, which Pestalozzi described, was his ideal. In addition to receiving careful religious and moral training, the children spent a large part of the time spinning under the direction of their mother. The following quotation presents the picture seen when Gertrude, the mason's wife, brings home some children of an unfortunate neighbor, Rudy:

> The mason's children were all at their spinning wheels and although they greeted their guests joyfully, they did not stop working for a moment. "Hurry and get through and then you can play with your little friends till six o'clock," said Gertrude. Rudy's children stood in open-mouthed wonder at the beautiful work and the cheerful aspect of the room. "Can you spin?" she asked. "No," they answered. "Then you must learn, my dears. My children would n't sell their knowledge of it at any price, and are happy enough on Saturday, when they get their few kreutzers. The year is long, my dears, and if we earn something every week, at the end of the year there is a lot of money, without our knowing how we came by it."

Supplemented by intellectual and religious instruction. — This domestic labor constituted the central activity of the

home, but it was supplemented by intellectual training, much of which was carried on while the children were doing the manual work. The following quotation describes how this was done:

> The children all helped wash the dishes, and then seated themselves at their customary places before their work. . . . First the children sang their morning hymns, and then Gertrude read a chapter of the Bible aloud, which they repeated after her, while they were spinning, rehearsing the most instructive passages until they knew them by heart.
>
> The instruction she [Gertrude] gave them in the rudiments of arithmetic was intimately connected with the realities of life. . . . She made them count their threads while spinning, and the number of turns on the reel when they wound the yarn into skeins.

Instruction in spinning organized in the ideal village school.— Pestalozzi believed it possible to organize the village school in imitation of Gertrude's home, as indicated in the following quotation:

> The lieutenant began his school, and Gertrude helped him in the arrangement of it. They examined the children with regard to their previous studies. . . . Besides reading, all were to learn writing and arithmetic, which previously had only been taught to the more wealthy in private lessons. . . . A good, capable woman who came to take charge of the sewing, spinning, etc., proved a most valuable and conscientious helper in the work. Whenever a child's hand or wheel stopped she would step up and restore things to their former condition. If the children's hair was in disorder she would braid it while they studied and worked . . . and she showed them how to fasten their shoes and stockings properly, besides many other things they did not understand. (**8**: 154.)

Educative labor to be taught in reformatories. — Finally, Pestalozzi indicated his belief that such training should be provided not only in the ordinary schools but also in orphan asylums and houses of correction, where the inmates should be given definite education in manual trades to improve their economic and moral status.

Pestalozzi taught farming and textile work at Neuhof. — The plan which Pestalozzi described in "Leonard and Gertrude" (1781) he had tried to put into practice on his farm at Neuhof from 1774 to 1780. When he proposed this experiment, although he had just failed as a farmer, several philanthropists provided the necessary funds.

Most of the children that Pestalozzi took in were vagrants and beggars. Many of them were vicious and improved little in the short time spent under his care. Others, however, were honest and capable and needed only the opportunity which he offered to develop into efficient persons. At one time he had thirty-seven children, at another fifty, and later eighty. Describing the management of the institution, he said:

> I get very valuable help from Miss M. of Strassberg, who is both highly gifted and of untiring activity. I have, besides, a master to teach weaving, and two skilled weavers; a mistress to teach spinning, and two good spinners; a man who winds for the weavers and teaches reading at the same time; and two men and two women who are almost always employed on the land. (7: 66.)

Pestalozzi had no administrative ability, and the management of such an enterprise, calling for unusual skill, was beyond his powers. Consequently the experiment was abandoned. In spite of its failure it had served a valuable purpose in demonstrating the lines along which industrial education might develop. It remained for Emanuel Fellenberg (1771–1844) to organize a successful institution on these same lines.

Emanuel Fellenberg's Pestalozzian institutions. *Early acquaintance with Pestalozzi.* — Pestalozzi carried on an intimate correspondence with Emanuel Fellenberg in 1792 concerning the French Revolution, and in 1804, for a few months, tried to conduct his school under the business management of Fellenberg at Münchenbuchsee.

Fellenberg active in Swiss social reform. — Fellenberg's father, a high government official in Switzerland, was interested in Pestalozzi's experiments, and thus Emanuel, while

quite young, became acquainted with Pestalozzi. His mother early directed his attention to the care of the poor and unfortunate. He pursued political and social studies in German universities; visited Paris in 1795 to ascertain the French intentions with regard to Switzerland; tried in vain to arouse his country to appreciate its danger; led Swiss troops against the French when they invaded Switzerland in 1798, but was defeated and had to flee the country. Later he was permitted to return. He occupied important administrative offices for a while, but he soon became disgusted with the general dishonesty and lack of interest in public affairs and turned his attention to education. He became convinced that legislation in favor of improvements in education was too slow a process, and decided to use his ample fortune in establishing "a model institution in which it should be proved what education could accomplish for humanity." For this purpose he purchased a large country estate at Hofwyl, near Bern. Here he conducted, from 1806 to 1844, educational experiments along Pestalozzian lines, which were as successful from an administrative and economic standpoint as Pestalozzi's were unsuccessful. (4.)

Included industrial training of rich as well as poor. — Fellenberg's aim was to establish an institution in which the poor would be trained to work, and the rich trained to appreciate the work of the poor and to be efficient in directing it for the public good. He believed that agriculture, as the principal occupation of the people, was best adapted to produce the harmonious physical and intellectual development at which he aimed. His aim was broader than Pestalozzi's had been at Neuhof, inasmuch as it included not only the industrial education of the poor but also the training of teachers for rural schools and the training of the rich.

Many successful phases of the Hofwyl institution. — The Hofwyl institution was organized gradually, each element in the organization being well established before another was

Bath House Practical School Classical Gymnasium Agricultural School Hotel
Scientific Institute Workshops of Tailors, Shoemakers, etc.

General view

Barn Stable School

Court of Agricultural School

FELLENBERG'S INSTITUTE AT HOFWYL

Reproduced by permission of the editor from Monroe's "Cyclopædia of Education." (The Macmillan Company)

added. By 1829, according to William Woodbridge's contemporary description, the institution included the following elements: (1) a farm of about six hundred acres; (2) workshops for manufacturing agricultural implements and clothing for the inhabitants; (3) a lithographing establishment where music and other things were printed; (4) a literary institution for the education of the wealthy and higher classes; (5) an intermediate or practical institution which trained for handicrafts and middle-class occupations; (6) an agricultural institution for the education of the poor to be farm laborers, and for the training of rural-school teachers.

The agricultural institution most significant for elementary education. — It was this sixth phase of the work that was generally copied in Switzerland and other European countries. Just as Pestalozzi had intended, agriculture was to be used as a means of moral and practical education for the poor. It also served to defray the expenses of the education of the poor students. In addition to training in agriculture, the institution provided training for cart makers, carpenters, joiners, blacksmiths, locksmiths, shoemakers, tailors, etc. Fellenberg's practice of giving prospective rural-school teachers a thorough training in scientific agriculture was copied in many of the normal schools of Switzerland. The practice of training poor children in agriculture and other occupations under the conditions of family life was soon copied in most countries except the United States.

General adoption of Fellenberg's plan. *Farm schools established in all cantons of Switzerland.* — Henry Barnard wrote in his "National Education in Europe" (1854):

> In each of the cantons of Switzerland, in 1852, there was at least one rural or farm school conducted on the basis of a well regulated family. The school is open both to girls and boys. . . . The number of inmates averages from twenty to forty, and when the entire family exceed twenty, it is subdivided into lesser ones of twelve or more, who are placed under an assistant "father." The school instruction occupies three hours in

summer and four in winter; the remainder of the day being devoted to work in the field or garden, or at certain seasons of the year and for a class of pupils, in some indoor trade or craft. (1: 488.)

Redemption industrial plan imitated in other European countries. — The above-described scheme was imitated in many parts of Europe. In Germany one of the most interesting examples was the Redemption Institute, or *Rauhe Haus*, established in 1833 near Hamburg. This was a private charity admitting boys and girls of the worst type. Ordinarily such children would have been identified with the criminal class and would have developed as criminals.

At the beginning of 1844, of 81 children who had left the establishment, 33 were apprenticed to artisans or mechanics, 7 entered at service as farm-laborers or domestics, 7 had become day laborers, 11 (girls) had become servants, 9 had become sailors, 3 entered the army, 1 prepared himself for the university, 5 continued at school; the occupation of 3 is unknown, and 2 children belonging to a family of vagrants could not be kept at any regular occupation. (1: 520.)

Only six or seven of these had misbehaved after leaving the school.

In England the famous Battersea Training Establishment for teachers was founded in 1839 in definite imitation of the Swiss normal schools. A noted reform school and farm for juvenile criminals was established at Red Hill in 1849 by the Philanthropic Society. On a farm of one hundred forty acres, without bars or walls or gates, criminal children, including some of the most vicious, were trained and reformed according to the Pestalozzian-Fellenberg plan.

Fellenberg manual-labor scheme popularized in the United States by Woodbridge, 1830. — Among the chief factors in popularizing the Fellenberg idea in the United States were the letters of William C. Woodbridge describing the Hofwyl institution, which started in the *American Journal of Education* and ran for almost two years (1831–1832) in the early volumes of its successor, the *American Annals of Education.*

Henry Barnard said that of more than one hundred reports concerning Fellenberg's establishment, "the most particular account and that in which the spirit of the institutions was considered by their founder to be best exhibited" was the one by Mr. Woodbridge.

American manual-labor schools mostly for higher education. — In the United States the original Pestalozzian element (moral redemption through manual labor) in the Fellenberg scheme was not copied until much later than in most European countries. On the other hand, Fellenberg's idea was carried out in manual-labor institutions, organized to provide secondary or higher education along literary lines. These were very common during the second quarter of the nineteenth century. The two ideas most prominent in this development were (1) the necessity of physical exercise; and (2) the possibility of self-support for poor students. Theological seminaries, colleges, and also many less important schools were established upon these principles from Maine to Tennessee. The movement began actively about 1825 and continued for about a quarter of a century. In general, it did not realize the hopes of its advocates, although some phases of it persist to-day in the farm work for self-support that students carry on in some of the agricultural colleges. Another phase of the development in the United States which is more directly related to elementary education remains to be discussed.

Industrial work in American reformatories. *Early reformatories organized on prison principles.* — We noted in an earlier paragraph that industrial training in reform schools on the family plan was copied from Switzerland in several European countries but was adopted very tardily in the United States.

In 1824 the House of Refuge for delinquent boys was established in New York City, and similar institutions were organized in Philadelphia in 1826 and in Boston in 1827.

Only a few others were established before 1850, but between 1850 and 1860 over a dozen were organized. These institutions were the results of the movement which had started in England in the latter part of the eighteenth century, to provide separate institutions for juvenile delinquents instead of confining them with adult criminals, as was the general practice. These new institutions differed from those established on the Pestalozzian plan in two fundamental respects: (1) they were not homes, but were simply separate prisons for children; (2) although they provided industrial work, it was not "educative labor," but prison-contract labor. The principal factor in this labor was the amount of money that the institution could make from it.

American reformatories little affected by Pestalozzian principles before 1873. — In 1873 Miss Mary Carpenter, one of the leaders in juvenile reform work in England, visited America and criticized the prison-like character of the reform schools. This criticism was one of the influences which were operative in stimulating the movement to reorganize these institutions on the Pestalozzian basis. I have found no general account of this development, but the following items are fair examples of it.

Pestalozzian basis of organization common in the eighties; cottage plan. — The following statement is taken from the report of the United States Commissioner of Education for 1882–1883:

> The reform school of the present is a decided improvement on those which were first established sixty years ago. The changes effected have been stated as follows in a pamphlet issued by the Colorado State Industrial School:
>
> "In the earlier history of these schools, all inmates were classed together. For their safe-keeping it was thought necessary to fasten them in cells at night; strong iron bars guarded the windows, etc. . . . In the modern reformatory neither high walls, cells, bolts or bars are found. Nothing in the surroundings distinguishes them from first-class public schools.

The Ohio Industrial School for Boys, opened at Lancaster, Ohio, in 1856, was the pioneer American institution on the cottage plan. The cottages were described in 1882 as follows:

> The family buildings are arranged in a segment of a circle around the main building, with the exception of a double building, called the Ohio, for the use of the very youngest boys, which is separated from the main and other buildings nearly half a mile, but is connected with the rest of the institution by a good board walk. These family buildings are named after the rivers in the state.

The building for the youngest children accommodated one hundred boys, those for the older children accommodated fifty. The large building for younger children contained schoolrooms, living rooms for the "elder brother and his family," sitting rooms for boys in the evening, sleeping rooms for teachers and pupils, a play room, workshop, etc. Here "home life more attractive than they had ever known awaited most of the inmates."

Pestalozzian educative labor replaces prison contract labor. — These quotations indicate the change from the spirit of prison life to the Pestalozzian spirit of home life. A similar change has taken place in the industrial work. On the old plan this consisted of contract sewing and tailoring, cigar making, brush making, glove making, knitting, shirt making, the cane seating of chairs, etc. These were factory industries of little educative or economic value for the individual child. For these have been substituted the domestic industries of the institutions, and other activities connected with the maintenance of the plant, such as farming, gardening, care of stock, carpentering, blacksmithing, plumbing, painting, brickmaking, furniture making, etc. In addition to these, other special trades, such as printing and telegraphy, have been added.

Pestalozzian industrial education competing with manual training. — The special significance of this movement has been sufficiently indicated in the previous discussion. Its general significance appears when it is compared with the

" manual-training " movement, and with the recent tendencies to introduce direct industrial training into the public schools. The Pestalozzian industrial education, as successfully organized in practice in Europe (*c.* 1830), antedated the manual-training movement in the United States (1876) by about half a century. It differed from the latter in aiming, to a considerable degree, directly at special efficiency in some trade or occupation. The manual-training movement, on the other hand, emphasized general or formal values as opposed to specialized efficiency; that is, it aimed at "making the hand the obedient servant of the brain, training the eye for good form and shape, and teaching neatness and correctness in the execution of their work." The Pestalozzian system has proved effective in special institutions, but has not had a chance in the American public schools. Manual training has had some opportunity to be tested in the public schools, and many educators affirm that the results have not been satisfactory either from the standpoint of general education or from the standpoint of industrial education. The recent movement for industrial education in the United States has tended to emphasize the necessity of training in specific industrial processes, which was the prominent element in the Pestalozzian system. The present tendency seems to be to experiment in the public schools with the modified Pestalozzian system as it is found in some juvenile reform schools.

BIBLIOGRAPHICAL NOTES

1. Barnard, H. *National Education in Europe.* (C. W. Bardeen, Syracuse, 1854, second edition.) Contains a complete discussion of the European movement down to 1852.

2. Bache. *Report of President Bache of Girard College, Philadelphia, on Education in Europe.* (1839.) Rare. Special sections dealing with reform schools.

3. Clewes, E. W. Educational Legislation of the Colonial Governments, *Columbia University Contributions to Philosophy*, etc.

4. WOODBRIDGE, WILLIAM. *The American Annals of Education*, 1831–1832, Vols. I and II. Rare. Contains letter from Fellenberg outlining his career; also best accounts of Hofwyl institutions.

5. SNEDDEN, D. S. American Juvenile Reform Schools, *Columbia University Contributions to Education*. Brief historical material; best account of recent tendencies.

6. United States Commissioner of Education, *Report for 1882–1883*. P. ccii; also other years. Contains many special reports on contemporary conditions in reform schools.

7. GUIMPS, ROGER DE. *Pestalozzi, his Aim and Work*. (D. Appleton and Company, 1890.)

8. PESTALOZZI, H. *Leonard and Gertrude*. (D. C. Heath & Co.)

CHAPTER XV

PESTALOZZIAN OBJECT TEACHING AND ORAL INSTRUCTION

Elementary Science; Home Geography; Primary Arithmetic

Main points of the chapter. — 1. Pestalozzian objective and oral methods represent the largest practical influence of Pestalozzi in carrying out the principles of instruction advocated by Rousseau.

2. Objective teaching created a new technique of oral instruction which is found actively competing with textbook instruction in the United States from 1860 on.

3. (*a*) Unsystematic object teaching was succeeded by systematic object teaching in which some scientific terms were learned.

(*b*) This was succeeded by elementary natural science in which learning the matured, technical, scientific classifications was considered to be the first step in scientific culture.

(*c*) This was succeeded by nature study, which emphasizes the simple observational study of natural objects and processes, with elementary training in inquiry and investigation as the first step in scientific culture.

4. From Rousseau through Pestalozzi, Ritter, and Guyot to Colonel Parker and present-day practice we have a continuous development of the teaching of home geography intimately related to the development of geography as a science.

5. Pestalozzi is the dominant figure in the development of primary arithmetic, which, as objective, oral, mental arithmetic was popularized in the United States by Warren Colburn's "First Lessons in Arithmetic on the Plan of Pestalozzi" (1821).

6. In connection with all these subjects the Pestalozzian emphasis on training in oral expression was prominent.

7. It is evident, from the material presented in this chapter, that the dominant reforms in four phases of elementary-school work (science, geography, arithmetic, and language) during the nineteenth century were in a large measure directly due to Pestalozzi's influence.

Pestalozzi's most important principle of instruction. — The preceding chapter discussed the practical development of Pestalozzi's principle that elementary education should be made a means of social reform by providing industrial training for juvenile delinquents. It represented the phase of education that he was most concerned with up to the beginning of his work at Burgdorf (1799). At that time he changed his attention to an improvement of the methods of teaching the ordinary subjects, especially in primary schools. Henceforth he was engaged, for the most part, in an endeavor to "psychologize education." One of the chief methods of doing this was to base all elementary instruction on sense perception.

Pestalozzi protested vigorously against teaching children words and phrases that they did not understand, and insisted upon the substitution of real experience with natural objects as the fundamental starting point of instruction. He considered this his most important educational reform, saying:

> If I look back and ask myself what I have really done toward the improvement of the methods of elementary instruction, I find that in recognizing observation as the absolute basis of all knowledge, I have established the first and most important principle of instruction. (**9**: 74.)

We have seen how the influence of the Reformation and the invention of printing tended to make learning to read and memorizing the catechism the fundamentals in elementary education. Calling attention to this, Pestalozzi said:

> In Europe the culture of the people has ended by becoming an empty chattering, fatal alike to real faith and real knowledge; an instruction of mere words and outward show, unsubstantial as a dream, and not only absolutely incapable of giving us the quiet wisdom of faith and love, but bound, sooner or later, to lead us into incredulity and superstition, egotism and hardness of heart. . . . Everything confirms me in my opinion that the only way of escaping a civil, moral, and religious degradation, is to have done with the superficiality, narrowness and other errors of our popular instruction, and recognize sense impression as the real foundation of our knowledge. (**4**: 233.)

Theoretical basis of object teaching expounded by Rousseau. — The theoretical psychological basis for instruction based on sense perception has been discussed in connection with Rousseau (see p. 193), so it will not be necessary to consider it here. Rousseau emphasized the necessity of connecting reasoning, experimentation, and constructive work with observation of natural objects. The Pestalozzian movement, however, emphasized only one element in the broader position of Rousseau, namely, the element of real experiences with objects, and descriptions of these experiences.

Examples of Pestalozzi's object teaching. — If we study a few examples of object teaching as they occurred in Pestalozzi's experience, we will get a concrete notion of what he meant by the "necessity of basing instruction on sense perception," and will see the relation to arithmetic, language, geography, and other studies.

Arithmetic. — In the *Journal* (1774), in which he described the education of his own child according to the principles of Rousseau, Pestalozzi said:

> I tried to make him understand the meaning of numbers. At present he knows only their names without attaching any precise meaning to them. The child has been in the habit of associating no difference of meaning with the various names of numbers he pronounces. . . . Why have I been so foolish as to let him pronounce important words without taking care at the same time to give him a clear idea of their meaning? (**4**: 41.)

In "Leonard and Gertrude" (1781) we get examples of how he followed up this theory with the spinning children at Neuhof.

> The instruction [Gertrude] gave them in the rudiments of arithmetic was intimately connected with the realities of life. She taught them to count the number of steps from one end of the room to the other; and two of the rows of five panes each, in one of the windows, gave her an opportunity to unfold the decimal relations of numbers. She also made them count their threads while spinning, and the number of turns on

the reel, when they wound the yarn into skeins. Above all, in every occupation of life she taught them an accurate and intelligent observation of common objects and the forces of nature. (1: 130.)

Description of common objects. — From the third class that Pestalozzi taught at Burgdorf (1800) we have one of the clearest examples of his object teaching. One of his pupils there wrote:

The language exercises were the best thing we had, especially those on the wall-paper of the schoolroom, which were real practice in sense impression. We spent hours before this old and torn paper, occupied in examining the number, form, position, and color of the different designs, holes, and rents, and expressing our ideas in more and more enlarged sentences. Thus he would ask: "Boys, what do you see?" (He never addressed the girls.)

Answer. "A hole in the paper."

Pestalozzi. Very well, say after me:

"I see a hole in the paper.

"I see a long hole in the paper.

"Through the hole I see the wall.

"Through the long narrow hole I see the wall.

"I see figures on the paper.

"I see black figures on the paper.

"I see round black figures on the paper.

"I see a square yellow figure on the paper.

"By the side of the square yellow figure I see a round black one.

"The square figure is joined to the round figure by a large black stripe, etc." (4: 181.)

At Burgdorf natural-history materials, chiefly minerals and plants, were collected by the children on their walks and examined and described, but the teachers were ignorant of any scientific classifications.

Geography. — From Yverdon (1805) we have a good example of a sense-perception geography lesson, as described by a pupil.

The first elements of geography were taught us from the land itself. We were first taken to a narrow valley not far from Yverdon, where the river Buron runs. After taking a general view of the valley, we were

made to examine the details, until we had obtained an exact and complete idea of it. We were then told to take some of the clay which lay in beds on one side of the valley, and fill the baskets which we had brought for the purpose. On our return to the Castle, we took our places at the long tables, and reproduced in relief the valley we had just studied, each one doing the part that had been allotted to him. In the course of the next few days more walks and more explorations, each day on higher ground, and each time with a further extension of our work. Only when our relief was finished were we shown the map, which by this means we did not see until we were in a position to understand it. (4: 255.)

These examples are representative of the methods of sense perception or object teaching used by Pestalozzi in various stages of his experimentation.

Object teaching introduced oral instruction. — The primary purpose in teaching through observation and real experience was to have the children get real and clear ideas instead of mere words or hazy notions. This led to a subordination or elimination of book study, which had two important effects on practice: (1) the teacher became an active instructor of groups of children, instead of a hearer of individual recitations; (2) children were given training in oral expression, which had practically no place in the elementary schools before.

New technique of teaching created by objective methods. — We have seen (in Chapter V) how the Christian Brethren and the Lancasterian schools substituted group recitations for individual recitations, but with them teaching continued to be primarily hearing children recite from books. With the introduction of oral instruction based on object teaching the schoolroom activity took on an entirely different character. In the first place a single objective center of attention usually became the center of interest of both teacher and pupils, such as the hole in the wall paper at Burgdorf or the valley at Yverdon. In connection with some such center of attention, for example, in studying beans, the teacher raised questions intended to set the children to thinking actively for the answer to a problem which they felt in common, such as,

"How many beans are on the table?" "What is the color of the beans?" In the absence of books, any information which the children did not possess or could not discover had to be given by the teacher; hence the teacher's knowledge of the objective world became important. This change in the emphasis from "what the book said" to what the children had experienced or were experiencing and what the teacher knew led to an elaborate development of the technique of instruction during the nineteenth century. The teacher was now confronted with such questions as, What objective experiences shall I select for children? How shall I arrange to give them these experiences? How shall I keep children actively attentive and thinking about the object? What kind of questions shall I ask in order to bring out unnoticed characteristics? How shall I systematize and arrange the child's experiences and ideas? How shall I provide for the repetition necessary for the retention of experiences, since simply rereading in a book is no longer possible? How much should the children be told, how much should they discover themselves? In telling them, what form of expression should I use?

Oral instruction develops teacher's skill. — The value of oral instruction not only for the pupil but also in developing the teacher was emphasized by Superintendent Harris of St. Louis in 1870. He said:

> It seems to me this phase of the subject — its value to the teacher — is worth quite as much as the immediate value of these lessons to the pupil. . . . The teacher is led to study and thoroughly prepare herself, and then in [the] lesson she is led to probe in a freer manner than ordinary, the miscellaneous fund of experience possessed by the individuals of her class; thus she cannot fail to find herself getting more and more emancipated from the slavish use of the text book and able to stand before her class with a consciousness of her strength and ability to draw out the resources of each and all her pupils and combine the same into one result.

Extreme forms of oral instruction — all questioning, all telling. — These oral methods assumed two extreme forms:

(1) the teacher simply questioned the children about their experience and told them nothing; (2) the teacher told them everything, his words being substituted for those of the textbook. The evil consequence of both these extremes was that children did not learn how to use books, which Pestalozzi sanctioned by his statement that he had not read a book for years. The influence of these extremes on the training of teachers is important. With the extreme of all questioning it was assumed that the teacher's knowledge was unimportant, a proper method of questioning being the sole requisite. Inasmuch as some people are naturally good questioners, it was assumed that they were skilled teachers. This was especially characteristic of the early work of Pestalozzi and his assistant, Kruesi, who through ignorance could only question children about such things as holes in the wall paper, or have them describe common natural objects. The extreme of lecturing by the teacher tended to emphasize the teacher's knowledge and made for the development of academic subject matter in courses for training teachers.[1]

With Pestalozzi himself oral instruction usually took the form of concert recitation, the children repeating after him a series of statements. An example of this method is found in the lesson on the hole in the wall paper quoted above. This was perhaps the poorest form that the oral instruction assumed, inasmuch as it involved neither useful knowledge in the teacher nor active thought by the children, but merely imitative shouting.

Training in speech and oral composition. — The second large influence of oral objective teaching was to give children training in speech, sometimes in oral composition. In

[1] The extremes of all questioning and all telling are approximated in an interesting way in the model lessons prepared by Frank McMurry and Charles McMurry, respectively, in their "Method of the Recitation." See the English iron-ore lesson and the Bunker Hill lesson (pp. 123–127) for examples of questioning lessons, and the battle of King's Mountain lesson (pp. 271–279) for an example of the telling or lecturing lesson in connection with the step of "presentation."

"Leonard and Gertrude," Gertrude was in no haste to have the children "learn to read and write. But she took pains to teach them early how to speak; for, as she said, 'Of what use is it for a person to know how to read and write, if he cannot speak, since reading and writing are only an artificial sort of speech?'" Thus the aim of teaching children to speak was an important element in Pestalozzian object teaching. While there were many crudities in Pestalozzi's methods of language training, the following valuable points characterized the methods as developed by his more intelligent followers: (1) the child should have clear ideas to be expressed, these to be based on real experiences; (2) his vocabulary should be systematically enlarged in expressing these ideas; (3) he should be trained to keep in mind an increasing series of ideas and to express them in order.

Prussian language lessons described by Stowe and Mann. — Good examples of this training in expression based on observation are to be found in the reports on Prussian Pestalozzian schools. In that of Calvin E. Stowe (1839) a number of concrete cases are given in the form of descriptions of lessons which he observed in his travels in Prussia. One of these descriptions concerning children from six to eight years of age stated:

> For six months or a year, the children are taught to study things, to use their own powers of observation, and speak with readiness and accuracy, before books are put into their hands at all. A few specimens will make the nature and utility of this mode of teaching obvious.
>
> In a school in Berlin, a boy has assigned him for a lesson a description of the remarkable objects in certain directions from the school-house, which is situated in Little Cathedral street. He proceeds as follows:
>
> "When I come out of the school-house into Little Cathedral street, and turn to the right, I soon pass on my left hand the Maria Place, the Gymnasium and the Anklam Gate. When I come out of Little Cathedral street" [etc.]. (**8**: 50.)

Horace Mann also described such lessons as he had observed them in Prussia (1843) and commented on their value

for training in speaking, at the same time contrasting with them in a very unfavorable light the mechanical methods which prevailed in American schools. He said:

> Again, the method I have described necessarily leads to conversation, and conversation with an intelligent teacher secures several important objects. It communicates information. It brightens ideas before only dimly apprehended. It addresses itself to the various faculties of the mind, so that no one of them ever tires or is cloyed. It teaches the child to use language, to frame sentences, to select words which convey his whole meaning, to avoid those which convey either more or less than he intends to express; in fine, it teaches him to seek for thoughts upon a subject, and then to find appropriate language in which to clothe them. (**8**: 63.)

An American example of these Pestalozzian objective-language methods, taken from the Oswego schools of 1862, is the following for children nine to ten years of age:

> The children were to give any terms which may be used in describing a face, and the teacher wrote them on the board as mentioned. They gave *pretty*, *homely*, *white*, *rosy*, *freckled*, *wrinkled*, *blushing*, *happy*, *bashful*, *sad*, *pale*, *cheerful*, *thin*, *sorrowful*, *sour*, *ugly*.
>
> When a sufficient number of words had been written upon the board, the teacher called up a pupil to mark each word that may be used to describe one face. The first pupil marked words making the following description: "Happy, thin, wrinkled, pleasant, pale, pretty, white, cheerful face" [etc.]. (**9**: 423.)

From object teaching to elementary science, to nature study. *Systematizing object teaching.* — The object teaching described so far has been of a rather informal nature, the teacher utilizing the common objects in the children's immediate environment to enlarge their knowledge and train them in a command of language. In some cases, however, the object teaching was highly systematized, and collections of materials used in physics, chemistry, mineralogy, botany, and zoölogy were placed before the children, who were required to learn to describe them in scientific terms. This was characteristic of the Oswego lessons, as described by the investigating

committee in 1862. Systematic training for children from six to eight years of age was provided in assorting and naming colors of yarns and colored cards. In the next highest class (nine to ten years) children were taught the scientific nomenclature of colors, to classify them as primary, secondary, and tertiary. Older children were taught the sensory qualities of certain chemicals, as in the following lesson intended to teach children to distinguish acids from alkalies:

> A class of boys and girls were arranged upon the stage so that they could observe the vials of liquids and solids upon the table in the center. . . . The children were each given some cream of tartar to taste; they pronounced the taste *sour*. The name of the substance was written on the blackboard. Then they were given some sal soda to taste, and they said it tasted "bitter and burning." The name of this was written on another part of the board. The teacher then told the children that we called those substances which taste sour *acids*, and wrote the word *acids* over cream of tartar. She then told them that the name for those substances which have a "bitter, burning taste," is *alkalies*. This word was written over sal soda. Then the children were given some vinegar to taste, etc. (**9**: 415.)

These Oswego examples were considered by some to be lessons in elementary science because they used some of the materials of the natural sciences and introduced some scientific terms. But such instruction was ordinarily known as "object teaching," the phrase "elementary science" coming into general use later, and "nature study" still later.

As a consequence of the general attention attracted by the Oswego experiment, "object teaching" became the great topic of discussion at teachers' meetings during the sixties. The *Proceedings of the National Teachers' Association* for this decade show the same interest in object teaching as is manifested to-day (1912) in industrial education or variation of instruction to meet individual needs. The consideration of oral instruction was generally linked with object teaching, and the values and dangers of the various methods of oral instruction were argued *pro* and *con*.

From systematic object teaching to natural science. — As noted above, some teachers considered the systematized object lessons as lessons in elementary science. This idea was, to a certain extent, at the basis of the preparation of the original Mayo book of object lessons (1830), of which most later ones were imitations. Thus in the preface Mr. Mayo said of these lessons, "As they are intended to be preparatory to instruction in natural history, they gradually assume a more scientific character and thus a feeling of progress is sustained in the pupil's mind."

On the other hand, in some places, there was a definite feeling of transition when a change was made from object teaching to elementary science or natural science. The natural science was thought of as new subject matter, with which the old object-lesson method might be used.

Transition under Superintendent Harris in St. Louis, 1870. — The transition from object teaching to elementary science, taught by oral methods, appears clearly in the development of the curriculum in the St. Louis schools about 1870. William T. Harris, later United States Commissioner of Education, was then superintendent in St. Louis, and his reports contain complete statements of the character and justification of his innovations. Although a conservative innovator, Superintendent Harris was thoroughly in touch with European educational thought and practice, and under his management the St. Louis schools proved the practical possibilities and values of many innovations which other cities introduced many years later.

The transition mentioned above was concisely stated by Superintendent Harris in his report for 1870–1871 as follows:

> For several years "object lessons" have been used to some extent by our teachers. Last year oral lessons in physiology were given in all the grades. Upon the adoption of the course of study in natural science these lessons have been confined to the hour given to that course and brought in as one of the means of giving zest and interest.

Scientific classifications and terminology emphasized. — The difference between object teaching and natural science seemed to be in the degree of classification. Science was conceived "as completely classified knowledge"; hence the important thing in instruction was to see that the children learned the classifications. The "syllabus of lessons in natural science" was most formidable, embracing almost everything in "nature inorganic" (mathematics, physics, chemistry, astronomy) and "nature organic" (botany, zoölogy, physiology). The technical phrases of these sciences were to be introduced, though not so rapidly as to burden the pupils. Good types, or representative examples of the general classes, were to be studied. The objective method was ordered in these words:

> Every lesson should be given in such a way as to draw out the perceptive powers of the pupil by leading him to reflect on what he sees or to analyze the object before him. It is at first thought strange — although it is true — that powers of observation are to be strengthened only by teaching the pupil to *think* upon what he sees.

The course of study was arranged on the "spiral plan," the pupil going over the same field three times during his school career. The following quotation from the outline of the course gives an idea of its formidable character:

NATURE INORGANIC

B. Physics (things considered abstractly as matter, force, and motion).
  I. Matter — oral (3d, 5th, and 7th years).
    1. Solids.
      a. Mineral: (*a*) metals, (*b*) stones, (*c*) earths, glass, etc.
      b. Vegetable.
      c. Animal.
    2. Liquids (nonelastic fluids).
      a. Water, quicksilver, etc.
    3. Gases (elastic fluids).
      a. Air.
      b. Steam and vapors.
      c. Carbonic acid, hydrogen, etc.

II. Motion and force — oral (3d, 5th, and 7th years).
1. Laws of motion.
2. Attraction of gravitation.
a. Weight and fall.
b. Center of gravity.
c. Specific gravity.
d. Action and reaction.
e. Friction.
f. Inertia.

NATURE ORGANIC

C. Natural history.
III. Zoölogy — oral (2d, 5th, and 6th years).
1. Anatomy and physiology.
2. Classification.
a. Vertebrates.
b. Mollusks.
c. Articulates.
d. Radiates.

Scientific study considered an easy pastime. — One hour, one afternoon a week, was devoted to natural science throughout the grades. The optimistic expectations of Mr. Harris are indicated in this quotation:

> Thus [he said] an attempt has been made to introduce the study of the sciences with all their infinitude of detail. . . . The general ideas of a science and its mode of procedure and its technics may be acquired with little labor; nay, it may be a mere pastime to do this. On this ground we may introduce certain outlines of natural history and natural philosophy into the lower grades of our schools. But it must be introduced in such a way as to afford a relief from the other studies, and not be placed in the same rank with them.

An example of the extreme logical point of view. — In recent years there has been considerable critical discussion of the advisability of teaching science, even in high schools, from the same mature, systematic point of view that prevails in the universities. Superintendent Harris's course of study carried this logical, highly formalized point of view even into the

elementary school. The course of study continued to be outlined in this same form in the superintendent's annual report for many years.

The conception of science as "completely organized knowledge" is likely to prevail among those persons who focus their attention on the final products of scientific investigation as they are formulated in print. It is possible, however, to emphasize the process of scientific investigation — the methods of inquiry used in scientific work — as the essential element in science. From this point of view science is primarily a matter of method. This conception has recently been emphasized by Karl Pearson and John Dewey (see discussion of nature study below).

Superintendent Harris, as a student, was primarily a logician and metaphysician; that is, he was primarily interested in the formal organization and the ultimate relations of ideas. Hence his course of study was an extreme example of the ordinary conception of science as a finished product, and the St. Louis children were supposed to be receiving scientific culture through learning the scientific classifications.

Practical reasons for introducing natural science. — Superintendent Harris said, in his report for 1870–1871, that in previous reports he had argued at length for the fundamental subjects (reading, writing, arithmetic, and geography) as more important than any of the new "special subjects" which were demanding admission into the curriculum, but that this year he had to report and justify the introduction of natural science. The social justification which he stated was "the importance of natural science as furnishing the theoretical basis of productive industry, and the consequent elevation of the masses of all the people by means of the wealth created thereby." This practical argument was quite different from the psychological argument, namely, "the development of the perceptive powers," which had been commonly used in connection with object teaching. This large practical value of

nineteenth-century natural science was radically different from the lack of practical value in the case of seventeenth-century science, which was described by Huxley in the quotation in Chapter VI. Enormous advances had been made in applied science during the later eighteenth and the nineteenth centuries, and many famous champions, such as Huxley and Spencer, were endeavoring to secure a place for it in the schools.

Herbert Spencer argued for the practical value of natural science, 1859.—The best known and probably the most influential discussion of the practical value of science was Herbert Spencer's essay entitled "What Knowledge is most worth." This essay was published in the *Westminster Review*, in England in 1859, and later (1861) was issued as the first chapter in Spencer's "Education." It was written as a criticism of the dominant classical education which prevailed in English secondary schools. In his "Autobiography" (Vol. II, p. 42) Spencer says, "When this essay was written, its leading thesis, that the teaching of the classics should give place to the teaching of science, was regarded by nine out of ten people as simply monstrous." The basis of Spencer's argument is illustrated by the following two brief quotations from the portion of the essay in which he described the practical applications of each science:

> Pass next to physics. Joined with mathematics, it has given us the steam engine, which does the work of millions of laborers. That section of physics which deals with the laws of heat, has taught us how to economize fuel in our various industries; how to increase the produce of our smelting furnaces by substituting the hot for the cold blast; how to ventilate our mines; how to prevent explosions by using the safety lamp; and through the thermometer, how to regulate innumerable processes. That division which has the phenomena of light for its subject, gives eyes to the old and myopic; aids through the microscope in detecting diseases and adulterations; and by improved lighthouses prevents shipwrecks. . . .
>
> Still more numerous are the bearings of chemistry on those activities by which men obtain the means of living. The bleacher, the dyer, the calico-maker are severally occupied in processes that are well or ill done

according as they do or do not conform to chemical laws. The economical reduction from their ores of copper, tin, zinc, lead, silver, iron, are in a great measure questions of chemistry. Sugar-refining, gas-making, soap-boiling, gunpowder manufacture, are operations all partly chemical; as are also those by which are produced glass and porcelain. . . . Glance through a work on technology, and it becomes at once apparent that there is now scarcely any process in the arts or manufactures over some part of which chemistry does not preside.

Spencer's essays influential in America. — Many incidents indicate that Spencer's essays were very generally read. We noted at the end of Chapter XIII that the second essay which criticized English Pestalozzianism was quoted in the United States in the early sixties. Superintendent Harris in his report for 1870–1871, from which we quoted above, said, "Many educational writers of the present day, who have investigated the question of 'what knowledge is most worth,' assert the paramount importance . . . of the various physical sciences." Hence we may infer that, although Spencer's essay was written primarily as an attack on English classical secondary schools, it was also influential in developing a place for natural science in elementary education.

From natural science to nature study. — As noted above, the St. Louis course of study of 1871 typified the tendency to organize the study of nature in the elementary school from the point of view and in terms of the completely organized, classified, and tabulated results of scientific investigation. It is an example of the logical point of view in the selection and arrangement of subject matter. While not entirely due to Pestalozzi, it was thoroughly in harmony with some Pestalozzian tendencies, especially as they will be described in the next chapter.

Nature study takes psychological point of view. — The opposite method of selecting and arranging subject matter, namely, the so-called psychological or natural method, is typified in the "nature-study" movement of recent years. While this movement is not a Pestalozzian one, it will pay to notice it briefly in this connection.

Nature Study Review (1905) defining the movement. — We shall not go into detail but shall note one important date in the development of this movement, namely, the founding of the *Nature Study Review*, the first number of which was issued in January, 1905. It is edited by thoroughly trained scientists, occupying important higher teaching positions, but interested at the same time in the educational problems of the elementary school. The first problem discussed in the *Review* was Nature Study and its Relation to Natural Science. An introductory editorial note indicated the undefined character of the subject as follows:

> Hence it has come about that nature study is understood to mean: (1) elementary agriculture; (2) simple object lessons on plants and animals; (3) informal teaching about things seen by the pupils, for the sake of developing interest and habits of observation; (4) serious elementary biology and physical science; (5) popular picnics in the woods; (6) sentimental talks and reading about plants and animals; (7) teaching children to love nature.

Nature study subordinates scientific classification. — Various articles were contributed, most of them taking the point of view that nature study and natural science are not the same. The general tendency is expressed in the two following definitions by one of the editors of the *Review:*

> *Nature study* is primarily the simple observational study of common natural objects and processes for the sake of personal acquaintance with the things which appeal to human interest directly and independently of relations to organized science. *Natural science study* is the close analytical and synthetical study of natural objects and processes primarily for the sake of obtaining knowledge of the general principles which constitute the foundations of modern science. . . . True elementary science with its foundations in classifications and generalizations is not adapted to pupils as young as those in our elementary schools.

Nature study may train in scientific method. — It must not be inferred, however, from this strong contrasting of "nature study" and "natural science" that the "nature-study" leaders believe there should be no element of *scientific* work in

"nature study." But instead of focusing their attention on the achieved generalizations and organized classifications which are the final product of scientific research, they emphasize the elementary steps in scientific method, the process of investigation, the "tentacles of inquiry," which are the psychological beginnings of science. From this point of view one of the aims of nature study is formulated in the *Review* as follows:

> To give the first training in accurate observing as a means of gaining knowledge direct from nature, and also in the simplest comparing, classifying and judging values of facts, in other words, to give the first training in the simplest processes of the scientific method.

It is interesting to note that this is the idea of instruction in natural science emphasized by Rousseau (see p. 198), but which the Pestalozzians generally failed to appreciate.

Pestalozzian-Ritter geography. — No subject exhibits as clearly the influence of the Rousseau-Pestalozzi movement on actual practice in elementary schools as does the development of the teaching of geography. This subject had little or no place in most elementary schools before the nineteenth century. The prevailing method of instruction down to the last part of the nineteenth century was generally poor. Practically all the reforms in method can be traced to Pestalozzi and the great German geographer, Carl Ritter (1779–1859), and their followers. Here, as in other phases of the Pestalozzian movement, the most striking improvements in method were in the lower grades of the elementary schools.

The older type of geography teaching may be called the dictionary-encyclopedic geography. In contrast with this type, the characteristic element in the new Ritter geography was the emphasis on the general principles of the influence of physiographic conditions on human activities and social development. The Pestalozzian element associated with the Ritter geography was the necessity and possibility of providing children with real, first-hand geographic experiences by beginning with home geography. We will summarize first

the development of the "dictionary-encyclopedic" type of geography and then take up the Ritter-Pestalozzian reforms.

Dictionary-encyclopedic geography. *Geography not common in elementary schools before 1800.*—We noted in Chapter IV that geography was not taught generally in American elementary schools before the Revolution, but that by 1800 the rudiments of the subject were taught in some schools. The following quotation indicates the general condition as late as 1824. The statement was made by W. A. Alcott, one of the leaders in American education in the early part of the nineteenth century.

> . . . Up to this period [1824] geography as a science had received little attention in the public schools of New England. . . . Some schools studied Morse; a few others used as a reading book, Nathaniel Dwight's "System of Geography," which was arranged in the form of question and answer. The majority, however, paid no attention to the subject. (**22**: 55.)

First American geographies: Morse, 1783, 1789.—The first large American geography was the "American Universal Geography" of Jedidiah Morse (1761–1826), published in 1789. Several revised editions were issued, and by 1800 it contained fifteen hundred pages. It included a great deal of information of the type found in encyclopedias. An example from the edition of 1800 is the description of the Boston schools, quoted in Chapter IV (see p. 86). This book was intended to be used in higher schools. A small edition, entitled "Geography made Easy," had been published in 1783. An abridgment, known as "The Elements of Geography," was published in 1797.

Several other elementary geographies were prepared during this period, but they possessed the same encyclopedic character. Sometimes variations in style were introduced to make the material more interesting to children. Perhaps the best known books of this type were those of Peter Parley issued from 1829 on. Parts of Parley's books were phrased in verse.

Even after the Pestalozzian influence began to be felt this dictionary-encyclopedic type of geography continued to be taught in most places and is not uncommon at the present time. Its dictionary phase is exhibited in the long series of definitions which are to be memorized, particularly in the so-called mathematical geography. Its encyclopedic phase consists of the masses of particular political, commercial, and statistical facts, which children were commonly required to memorize.

Geography a conglomerate subject before 1819. — This unorganized, encyclopedic type of geography prevailed not only in the textbooks, but it was practically the only kind of geography in existence before the work of Ritter, about 1820. Discussing this condition, Ritter said that from the three traditional divisions, namely, mathematical, physical, and political,

> our ordinary text books compile their usual aggregate of facts, and each becomes after its own pattern a motley in miniature. . . . A systematic exposition of geography is seldom to be found in them. . . . They are at the foundation only arbitrary and unmethodical collections of all facts which are ascertained to exist throughout the earth. . . . The facts are arranged as the pieces of a counterpane, as if every one existed in itself and for itself, and it had no connections with others. . . . The beginning is usually made with *boundaries* which are generally most unstable and uncertain, instead of being made with some rudimental fact around which all others arrange themselves as a center. . . . These geographical treatises . . . indicate knowledge rather than science; they form a mere aggregation and index of rich materials, a lexicon rather than a true text book. And therefore ensues, despite the undenied interest of the subject and its high claims, the mechanical and unfruitful method only too common — the crowding of the memory without judgment, without thought. (12: xxiv.)

Such was the condition of geography as represented not only in the textbooks but also in the larger treatises. It was the work of Ritter to change the subject from a mere conglomeration of facts to a science containing the general principles of the relations of physiographic conditions to social development as its subject matter.

Creation of the science of geography by Carl Ritter, 1779–1859. — Ritter's greatest scientific work was the publication of his mammoth geography, the first volume appearing in 1817. Its title was "The Science of the Earth in Relation to Nature and the History of Man; or General Comparative Geography as the Foundation of the Study of and Instruction in the Physical and Historical Sciences." This work, which represented years of previous study, was continued until his death in 1859, when nineteen volumes containing over twenty thousand pages had been issued. The principles of organization which it contained practically created the science of geography. Although Ritter was widely known for his scientific attainments before the publication of this work, its appearance so impressed the Prussian scientists and government officials that he was made professor of geography in the University of Berlin. Here he lectured for forty years (1819–1859) to crowded audiences, numbering often as many as three hundred students. Most of the famous geographers of the later nineteenth century were either directly or indirectly students of Ritter. Among these were Reclus (1830–1905), Kiepert (1818–1899), under whom F. W. Parker studied at Berlin, and the Swiss-American geographer Guyot, of whom more will be said later.

Ritter greatly influenced by Alexander von Humboldt's work on South America. — In his own scientific development Ritter was greatly influenced by Alexander von Humboldt (1769–1859), with whom he was very intimate. Of this relationship Ritter's biographer says:

> Among his distinguished contemporaries, none was to him of so much help as Alexander von Humboldt, who summed up in himself the progress of the age in the physical and natural sciences as applied to the science of the globe. I have said elsewhere how greatly he acknowledged his indebtedness to Humboldt's labors which furnished him with the indispensable foundation for his own edifice. His [Humboldt's] investigations of the general laws of the distribution of heat represented by his system of isothermal lines; of the distribution of plants, as depending

upon the two main elements of climate, [namely] heat and moisture; of the marine currents, as modifiers of climate in similar latitudes, were of general application to all parts of the globe. (11 : 216.)

Humboldt had explored South America in 1799 and demonstrated the physical regions, the well-defined geographical types, which are to be found there, and showed

how they owe their existence to the fundamental traits of the structure of the continent, and to the powerful influence which that structure exercises on the climatic conditions, and through them, on animated nature and man himself. (11 : 217.)

Ritter generalized the special labors of Humboldt. — Ritter's addition to the work of Humboldt may be stated as follows :

Such a knowledge Ritter felt was to be acquired of every other continent, and above all, of the historical continents [Europe, and Asia especially]. That alone would be a safe basis for the further study of the influence of those natural regions on man's character and peculiar development, and on the special functions performed in the civilization of mankind by the nations which occupied them during the periods of their growth and activity. (11 : 218.)

Ritter pedagogically a part of the Rousseau-Pestalozzi movement. — The preceding discussion suggested the fundamental scientific importance of Ritter's work in relation to Humboldt and later geographers. It remains to show how intimately he was identified with the general pedagogical movement which we have been considering.

Salzmann of Schnepfenthal, Ritter's pedagogical father. — The school of Salzmann (1744–1811) at Schnepfenthal was described in Chapter X as the most successful example of the schools of Basedow, which were established during the period of enthusiasm created by Rousseau's "Émile." This school was opened in 1784 (see p. 212). Carl Ritter was its first pupil, and Guts Muths his special teacher and guardian. Here Ritter spent eleven years (between the ages of six and seventeen) as a student. After graduating, in order to prepare

himself for teaching, he continued in the school for a year as assistant teacher. Thus he became thoroughly imbued with its methods. He was especially interested in geography, and Guts Muths early prophesied he would become a famous geographer. The instruction at Schnepfenthal included much physical training, school gardening, and especially organized excursions for geographical and social study. Ritter remained in touch with this school all his life, and always took council with "Father Salzmann" whenever he needed advice.

Ritter met Pestalozzi at Yverdon; congenial spirits. — In 1807, while traveling in Switzerland with two boys whose tutor he was, Ritter spent a week at Yverdon. He was greatly attracted by Pestalozzi's personality and labors, and was thoroughly prepared by his Schnepfenthal training to appreciate what he saw. In 1809 he repeated his visit and wrote to a friend expressing his profound appreciation of the influence upon him of Pestalozzi's views. Shortly after this journey he set to work on a manual of physical geography, of which he wrote:

> My first object in undertaking this work was to fulfill a promise made to Pestalozzi, that I would prepare a treatise, in his method, on geography. I did, in fact, begin it with this in view, but I soon found that the materials were in a confused and hopeless state, and that no method had ever been applied to this science. Proceeding in my task the chaos gradually disappeared. . . . I have found every mountain pass used as a means of transit, every waterfall and every promontory the scene of human settlement — every physical feature, in a word, invested with historical significance. I believe that I can see in this the basis of a science of physical geography which shall show that history has written its records in the language of external nature; that in the world around us exist the causes which have controlled the progress of the race. (**11**: 99.)

At other times Ritter referred to the influence of Pestalozzi, particularly in the commonly quoted statement in which Ritter said that he learned how to teach geography from Pestalozzi although the latter knew no geography. Finally,

when the first volume of his great life work was issued in 1817, it was dedicated to Pestalozzi and Guts Muths, his "fatherly teachers and dear friends."

Pestalozzi's influence only one factor in Ritter's development. — When Ritter first met Pestalozzi the former had no clear notion of ever becoming a great professional geographer. He was primarily interested in pedagogy, and his ambition was to be the head of a great boys' school. Hence his enthusiasm for and debt to Pestalozzi were largely pedagogical and personal, not scientific. While we must give Pestalozzi credit for influencing Ritter, we must keep in mind that the latter was already thoroughly familiar with the essentials of Pestalozzi's methods as they had been practiced by his predecessors at Schnepfenthal. Ritter's scientific achievements were due to his own genius, his vast erudition, and the individual researches of such men as Humboldt, which made possible the great work of scientific organization which Ritter carried out.

Home geography as taught by Pestalozzi and Ritter. — In another place (see p. 200) we quoted the very clear directions given by Rousseau for the study of home geography. In the early part of this chapter Pestalozzi's method as described by one of the pupils at Yverdon (1805) was presented. Ritter advocated the same method and indicated its large possibilities even for mature students in the following statement:

> Personal investigation must be made by every student in order to understand the results of the investigations of others. Wherever our home is, there lie all the materials which we need for the study of the entire globe. Humboldt hints at this when he says in his "Kosmos," "Every little nook and shaded corner is but a reflection of the whole nature." The roaring mountain brook is the type of the thundering cataract; the geological formations of a single little island suggest the broken coast lines of a continent; . . . The digging of every well may contribute to our knowledge of the earth's crust; the excavations made in the buildings of railroads may, without the loss of time, labor or expense, be a ceaseless source of instruction. In the structure of a spear of grass, of a rush, of a single monocotyledon, may be studied in

miniature the palm tree, prince of the tropics. . . . Whoever has wandered through the valleys and woods, and over the hills and mountains of his own State, will be the one capable of following Herodotus in his wanderings over the globe. . . . The very first step in a knowledge of geography is to know thoroughly the district where we live. (**12**: xxv.)

Pestalozzian-Ritter geography in the United States. — The largest influence of the Pestalozzian-Ritter geography on the teaching of the subject in the United States has been in the development of home geography in the lower grades. The general principles of the organization of subject matter for upper-grade work have been followed in some places. There is some evidence of minor importance in connection with the work of William C. Woodbridge, Horace Mann, and others who were familiar with European practices, which indicates that the new methods of teaching geography were becoming known in the United States during the first half of the nineteenth century. There are, however, two such prominent leaders in popularizing these methods at a later date, namely Professor Arnold Guyot and Colonel F. W. Parker, that we will devote the rest of the discussion to their work.

Guyot expounded the new methods and wrote texts, 1866. — Arnold Guyot (1807–1884), a native of Switzerland, studied four years under Ritter and came to Massachusetts in 1848. Ritter's biographer, Gage, said in 1866:

I suppose that without controversy among those who are competent to decide, the most successful and at the same time the most distinguished successor of Ritter in the field of geography is Professor Arnold Guyot.

From 1848 to 1854 Guyot was employed by the Massachusetts Board of Education as an inspector and institute lecturer. Concerning this work he wrote:

During more than nine years it was my privilege to address thousands of teachers in the normal schools of Massachusetts and New Jersey, and in the teachers' institutes, on the subject of geographical teaching and the reform so much needed in that important department of instruction.

In 1854 Guyot was made professor of geology and physical geography at Princeton. His relation to the teaching of elementary geography consisted in his institute lectures mentioned above, and in the preparation of maps, of a series of textbooks, and of a manual on "Geographical Teaching," all issued about 1866. Speaking of these books in 1882, Colonel F. W. Parker said:

> Guyot, the pupil and disciple of Ritter, made for us his unequaled Common School Geography. But the book has been a failure and is now out of print, because teachers who have been taught in the old way could not comprehend its great beauty. (**20**: 125.)

Guyot's model book for home, type, and regional geography. — Although the books were not a financial success, they were better than many of the geographies used at the present time. In preparing the first book of the series Guyot secured the assistance of a woman who had been very successful in teaching geography according to Pestalozzian methods in the Oswego Normal School. Thus the book represented the combined labors of the leading scientist and of a successful teacher of little children. Admirable sample oral lessons on home geography, including first steps in making maps of local regions, were presented in the manual. Among the aims of the first book of the series the following is stated as the first: "To fill the mind of the young with vivid pictures of nature in such regions of the globe as may be considered great geographical types."

F. W. Parker stimulated interest in Ritter-Guyot methods, 1889; Frye geographies. — The second great influence in improving geography teaching in the United States along Pestalozzian-Ritter lines was the work of Colonel F. W. Parker (1837–1902), who will be discussed at greater length in a later chapter. Colonel Parker's influence was exerted in much the same way as Guyot's, only more effectively, namely, in the training of teachers and through the publication, in 1889, of a book entitled "How to teach Geography." The

character of the book is clearly indicated in the statement describing it in the International Education Series, of which it is Volume X, to wit: "A practical exposition of methods and devices in teaching geography which apply the principles and plans of Ritter and Guyot." It is not necessary to describe this book, as it is to be found in most libraries, and a rapid glance through it will show its relation to the movement under discussion.

Colonel Parker was influenced not only by the books of Guyot and Ritter, but also by Kiepert (1818–1899), who occupied Ritter's chair at the University of Berlin, where Parker studied for two years beginning in 1872. Some of the most prominent teachers of geography at the present time were trained under Colonel Parker at the Cook County (Illinois) Normal School (1883–1896), where he used the texts of Ritter and Guyot. The best known of these disciples of Parker is Alexis Frye (1859——) whose "Geography" published in 1895 embodies many of the Ritter principles. The Redway and Hinman "Natural Geographies" published in 1898 are a part of the same tradition.

Connected development of geography teaching from Rousseau to Colonel Parker. — The development of the teaching of geography has been described at such great length because it exhibits, more clearly perhaps than any other subject, the connection between the following factors: (1) the epoch-making influence of Rousseau; (2) the two practical lines of experimentation initiated by his publications, namely, the schools of Basedow and of Pestalozzi; (3) the larger social development of subject matter, that is, the science of geography; (4) the importation of the European theories and practices into the United States; and (5) the acknowledged imitation of these in very recent reforms. From Rousseau to Colonel Parker we have a definitely established and connected line of historical development in the teaching of geography.

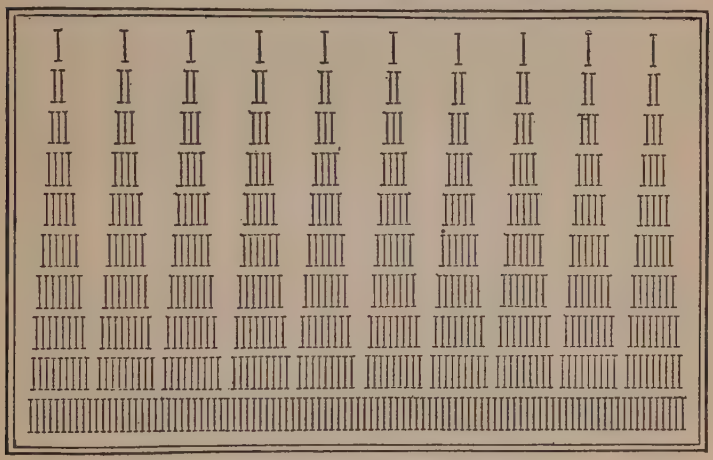
Pestalozzian primary arithmetic. *Arithmetic generally neglected before 1800.* — The third subject which exhibits the profound influence of the Pestalozzian methods of objective and oral instruction is the teaching of primary arithmetic. By primary is meant the work of the earlier years of the elementary schools. In Chapter IV it was shown that arithmetic was often omitted from elementary schools in the United States down to 1800; that it was sometimes specifically prohibited by the public-school committees; and that in most places where it was taught, it was not begun until about the fourth year and was then studied by the most mechanical rule-of-thumb methods. The work of arithmetic was commonly known as "ciphering," indicating that the "figuring" on paper (usually according to fixed rule) was the fundamental process.

Pestalozzi largely the founder of primary arithmetic. — The general significance of Pestalozzi in the development during the nineteenth century is shown in the following quotation from our foremost American authority on the history of the teaching of mathematics, Professor D. E. Smith:

> The evolution of the teaching of primary arithmetic extends over a period of about two hundred years, although numerous sporadic efforts at teaching the science of numbers to young children had been made long before the founding of the Francke Institute at Halle [1694]. During the eighteenth century not much progress was made until there was established the Philanthropin at Dessau [1774], and perhaps it would be more just to speak of primary arithmetic as having its real beginning in this institution at about the time that our country was establishing its independent existence. It is, however, to Pestalozzi, at the beginning of the nineteenth century, that we usually and rightly assign the first sympathetic movement in this direction, and it is the period from that time to the present that has seen the real evolution of the teaching of arithmetic to children in the first school years. (**21**: 67.)

Pestalozzi's fundamental principles. *Mental operations to replace ciphering; objective beginnings.* — Pestalozzi's fundamental contention was that the arithmetical *mental processes* of the pupil are the most important factors in arithmetic study.

This may be interpreted to mean either the special mental operations which go forward in working a particular problem, or the general mental processes of judging and reasoning, which Pestalozzi believed could be trained. Two consequences in practice followed from this emphasis on the child's thinking: (1) In order to eliminate the old emphasis on "cipher-ing" according to rule, all written arithmetic was postponed until the child had made considerable arithmetical progress;



A PESTALOZZIAN NUMBER CHART

An objective aid in teaching number combinations. Concerning it Kruesi says, "The table which was intended to bring these facts before the perception of the pupil formed, for a long time, a prominent feature in all Pestalozzian Schools. It even appeared in the first edition of Warren Colburn's Mental Arithmetic"

thus originated the "mental," "intellectual," or oral arithmetic of the nineteenth century. (2) In order to assure that the pupil got real number ideas instead of mere words, all the elementary number combinations were learned in connection with the arranging, grouping, and using of material objects, lines, charts, etc., instead of simply being memorized.

Incidental language instruction overemphasized. — Thus we find the two main principles of instruction which we are

considering in this chapter, namely oral instruction and objective methods, at the basis of Pestalozzian primary arithmetic. As in all other subjects, Pestalozzi used the arithmetic lessons also for purposes of language instruction, according to the principles stated on page 330. In fact, this incidental language training was given so much time, that the method has sometimes been criticized as being too much language and too little arithmetic. This mixture of training in general observation, number combinations, and oral expression is shown in the following lesson from Pestalozzi's school. The teacher rearranged some beans on the desk while the children looked away; then the following conversation ensued:

"What change do you see in the position of the beans?"
"They are farther apart."
"Is there any change in the number?"
"There are eight beans, as before."
"What other change do you see?"
"They lie in a crooked row."
"Any other change?"
"The germs are on the right side."
"What do you see me do now?"
"You take away two beans."
"How many are left?"
"There are six left."
"What then do you say when two beans are taken from eight beans?"
"Two beans taken from eight beans leaves six beans."

Examples of a Pestalozzian chart. — The number work with actual objects was followed by work with charts in which appeared various combinations or groupings of straight lines or dots, each line or dot being considered as a unit. The chart shown on page 351 is an example.

Pestalozzian primary arithmetic adopted in Germany and England. — The influence of Pestalozzi's methods in primary arithmetic on European practice was of the same profound character as in the other subjects. They soon dominated the elementary schools of Germany and Holland. In England

the Pestalozzian arithmetic was developed in the schools of the Home and Colonial Infant School Society by Professor Reiner, who had been teacher of mathematics at Yverdon until the school there was closed in 1826.

In America: Warren Colburn's "First Lessons," 1821.— We have such a striking example of the early adoption of Pestalozzi's methods in the United States, however, that we will confine the further discussion to it, namely, Warren Colburn's "First Lessons in Arithmetic on the Plan of Pestalozzi," published in Boston in 1821. This book represents the only phase of the Pestalozzian methods which secured widespread adoption in this country before the Oswego movement of 1860.

Pestalozzian origin of Colburn's book. — Colburn's book would be significant as an example of the movement for intellectual arithmetic even if its conception were independent of any Pestalozzian influence. It is interesting to note, however, that there was probably a direct connection with the Pestalozzian movement, although Colburn may have been largely independent in his conception of the method. Colburn states his debt to Pestalozzi in his rather long preface, which is phrased in typical Pestalozzian language; and the full title of the second edition (1822), which is given above, is clear evidence of an acquaintance with "the plan of Pestalozzi."

Warren Colburn (1793–1833) graduated from Harvard in 1820 and spent several years teaching school before and after graduation. He was noted in college as a mathematician, and he developed the material of his arithmetic while teaching in the elementary schools. He prepared other textbooks in mathematics, but spent most of his life as superintendent of manufacturing plants.

Colburn's book ranks with Webster's speller in importance.— The adoption of Colburn's arithmetic was so general, and it continued in use so long, that it is scarcely an

exaggeration to rank it with "The New England Primer" and Webster's speller in historical importance. It was translated into foreign languages, was widely used in England, and millions of copies were sold in the United States. Forty years after it was first issued it was still generally eulogized as the best and the only almost perfect book that had appeared in that line.

Pestalozzian principles in Colburn's preface. — Criticizing the ordinary method of teaching arithmetic by "ciphering" according to rule, Colburn wrote:

> The pupil, therefore, when he commences arithmetic, is presented [ordinarily] with a set of *abstract* numbers, written with *figures*, and so large that he has not the least conception of them even when expressed in *words*. From these he is expected to learn what the figures signify and what is meant by addition, subtraction, multiplication, and division; and at the same time how to perform these operations with figures. The consequence is, that he learns only one of these things, and that is, how to perform these operations on figures. He can perhaps translate the figures into words, but this is useless, since he does not understand the words themselves. Of the effect produced by the four fundamental operations he has not the least conception.

Emphasized acquiring correct "number ideas." — After stating that very young children in their ordinary play show an understanding of many elementary number facts, Colburn's preface contains the following characteristic Pestalozzian statement in which the "idea of number" is emphasized:

> The idea of number is first acquired by observing sensible objects. Having observed that this quality is common to all things with which we are acquainted, we obtain an abstract idea of number. We first make calculations about sensible objects; and we soon observe that the same calculations will apply to things very dissimilar; and finally that they may be made without reference to any particular things. Hence, from particulars, we establish general principles, which serve as the basis of our reasonings, and enable us to proceed, step by step, from the most simple to the more complex operations. It appears, therefore, that mathematical reasoning proceeds as much upon the principle of analytic induction, as that of any other science.

No "ciphering" or figures used in beginning arithmetic.— To make sure that the child's attention was fixed on the "number ideas" instead of the figures, no figures were used in the problems in the first fifty-five pages of Colburn's book. Thus the child worked approximately 1000 problems (250 concrete and 750 abstract) before being made acquainted with the figures. The number names were all printed in full, thus:

> Two and one are how many?
> What cost three lemons, at six cents apiece?
> What do you understand by one tenth, two tenths, three tenths, &c, of anything?

Finally, on page 55, the following statement occurred:

> Instead of writing the names of the numbers, it is usual to express them by particular characters, called *figures*.
> "One" is written . . . . 1.
> "Two" is written . . . . 2 [etc.].

These quotations show how Colburn, in common with the Pestalozzians, placed great emphasis on getting the *number ideas* clearly fixed in the child's mind.

Pupils became expert mental calculators. — Colburn said, "The examples are to be performed in the mind, or by means of sensible objects such as beans, nuts, etc." This was recommended primarily in order to secure clearer number ideas. But the performing of the operations mentally instead of on paper also had the effect of developing rapid calculators. In other words, the Pestalozzian methods were very successful in making the number combinations automatic in the pupils' minds. The chief reason for this was the large amount of time saved by omitting the writing process, leaving practically all the time for arithmetical thought. Another reason was the concentration of attention by the children because of the interest excited by the game element in the mental-arithmetic recitations. An example of the results secured in Pestalozzi's own

school is contained in the testimony of a German merchant who visited Burgdorf about 1801. He said:

> I was amazed when I saw these children treating the most complicated calculations of fractions as the simplest thing in the world. Problems which I myself could not solve without careful work on paper, they did easily in their heads, giving the correct answer in a few moments, and explaining the process with ease and readiness. (**4**: 214.)

The widespread influence of Colburn's book has been noted above. During the middle of the nineteenth century mental arithmetic was a very prominent subject in elementary-school work, and wonder is often expressed that it has disappeared in many schools of the present day. About 1870 another phase of Pestalozzian arithmetic became prominent in the United States under the name of the Grube method. This will be discussed in the next chapter.

Objective and oral methods revolutionized instruction. — This chapter has demonstrated the manifold application and the widespread influence of the Pestalozzian principles of objective and oral instruction. The methods of instruction in language, elementary science, home geography, and primary arithmetic were either created or revolutionized by the application of these principles, and in a few decades the work of progressive schools represented an enormous advance over the wasteful mechanical methods which prevailed in the ordinary schools at the beginning of the nineteenth century. But Pestalozzi's influence was not entirely of this beneficial character, and certain pernicious phases of it will be discussed in the next chapter.

BIBLIOGRAPHICAL NOTES

General works to be found in most libraries. — Of the general works on Pestalozzi listed below, those by Holman (No. 2), Kruesi (No. 3), and de Guimps (No. 4) are the best for a brief study of Pestalozzian methods.

1. Pestalozzi, H. *Leonard and Gertrude.* (D. C. Heath & Co.)

2. Holman, H. *Pestalozzi, his Life and Work.* (Longmans, Green, & Co., 1908.) Pp. 197–283.

3. KRUESI, H., JR. *Pestalozzi, his Life, Work, and Influence.* (American Book Company, 1875.)

4. GUIMPS, ROGER DE. *Pestalozzi, his Aim and Work.* (D. Appleton and Company, 1890.) Pp. 412–424, and scattered references.

5. PINLOCHE, A. *Pestalozzi and the Modern Elementary School.* (Charles Scribner's Sons, 1901.) Pp. 149–275.

Special works. — The following special works are often not available in small libraries, but are important for those who have access to them.

Concerning oral instruction. — 6. Reports of the National Teachers Association from 1860 to 1875.

7. *Report of Superintendent Harris of St. Louis*, 1870–1871

8. BARNARD, H. *National Education in Europe.* (C. W. Bardeen, Syracuse, 1854.) Especially pp. 49–74 for descriptions, by American visitors, of Prussian lessons.

9. BARNARD, H. *Pestalozzi and his Educational System.* (C. W. Bardeen, Syracuse, n. d.) Pp. 405–428 for the report of Oswego methods of 1862. Contains also many papers on object teaching.

Concerning elementary science. — See above, No. 7.

9*a*. HUXLEY, T. H. *The Advance of Science in the Last Half Century.* (D. Appleton and Company, 1898.) Also in same author's *Methods and Results*, chap. ii. A brief attractive discussion of the topic.

Nature study. — 10. See the *Nature Study Review* (1905), particularly the first volume.

Geography. — 11. GAGE, W. L. *Life of Carl Ritter.* (Charles Scribner's Sons, 1867.) One of the best books in English from which to gain an appreciation of the relation between the work of Basedow and Pestalozzi, and of the scientific and pedagogical development of a subject. The second chapter (pp. 16–43) gives a very good account of Salzmann's school at Schnepfenthal.

12. RITTER, CARL. *Comparative Geography.* (American Book Company, 1865.) The introduction contains a discussion on the teaching of geography, and the condition of the subject as a science.

13. RITTER, CARL. *Geographical Studies.* (American Book Company, 1861.) Pp. 13–22, a brief sketch of Ritter's work, by Gage.

14. GUYOT, ARNOLD. *Geographical Teaching.* (Charles Scribner's Sons, 1867.) Good exposition of principles with sample lessons.

15. GUYOT, ARNOLD. *Geographical Series, Introduction.* (New York and Chicago, 1866.) Preface gives fundamental principles.

16. PHILLIPS, C. A. Development of Methods of Teaching Modern Elementary Geography, *Elementary School Teacher*, 1910. Vol. X, pp. 427–439, 501–515.

17. SCHERER, H. *Geographie;* also *Geographieunterricht.* (Wunderlich, Leipzig.) Two volumes of a very valuable series. The series contains a volume on the development of the *science* of each subject — geography, mathematics, etc.; also a companion volume on the development of the *teaching* of each subject.

Concerning arithmetic. — 18. COLBURN, WARREN. *First Lessons in Arithmetic on the Plan of Pestalozzi.* (Houghton Mifflin Company, 1821.) Edition of 1863 practically same as original except the title. Revised and enlarged edition of 1884 contains, in an appendix, the original preface and a memoir of Colburn.

19. UNGER, F. *Die Methodik der praktischen Arithmetik.* (Teubner, Leipzig, 1889.) The best history of the teaching of arithmetic. Pp. 175–198 discusses Pestalozzi and German followers.

Other books referred to in the chapter. — 20. PARKER, F. W. *Talks on Teaching.* (Kellogg, 1891.)

21. *Teachers College Record*, 1891. Vol. XII.

22. BARNARD, H. *American Journal of Education*, 1858. Vol. V p. 55. Contains a memoir of Woodbridge.

CHAPTER XVI

PESTALOZZIAN FORMALISM; DEGENERATE OBJECT TEACHING; SIMPLE TO COMPLEX[1]

Main points of the chapter. — 1. Certain formalized Pestalozzian methods have exerted a pernicious influence on elementary-school practice.

2. Hence Herbert Spencer accepted Pestalozzi's general principles but rejected his formal methods and specific devices.

3. Pestalozzian object teaching often degenerated into memorizing a list of adjectives. Dickens satirized such methods.

4. Pestalozzi and Spencer assumed that the natural process of learning consisted in building up complex wholes from unanalyzable elements, that is, proceeding from the simple to the complex.

5. Consequently Pestalozzi advocated the organization of an alphabet or graduated series of exercises for each subject, which was to be learned as the first step in studying the subject.

6. This principle was the basis of (1) the synthetic, alphabet-syllable-spelling method in teaching reading; (2) of the straight-line, curved-line, etc., method of beginning drawing; and (3) of the Grube method of teaching arithmetic.

7. Recently psychologists have maintained that the natural method of learning is not as stated in 4 above, but that the child's experience begins as a "big, blooming, buzzing confusion," and that he learns by analyzing complex wholes as far as may be necessary for practical purposes, and then reconstructing more or less organized wholes.

Pernicious elements in Pestalozzianism. — The Pestalozzian methods described in the preceding chapters were a reaction against the formalism of words, which dominated the elementary schools at the beginning of the nineteenth century. This reaction was, for the most part, of permanent benefit to the elementary schools. But there were tendencies to formalism,

[1] Special supplementary reading: Herbert Spencer, "Education," chap. ii. See above, p. xxiii, for further directions.

even in the work of Pestalozzi and his followers, which exerted almost as great an influence on elementary-school practice as did his beneficial reforms. It is the purpose of this chapter to describe these tendencies.

Three types of formalism. — The term "formalism" is used here to designate roughly three tendencies: (1) to teach mere words or symbols without giving the learner an appreciation of the real meanings they are intended to represent; (2) to exalt particular devices or exercises which may have been used to carry out a certain educational principle, but to fail to appreciate the real spirit of the principle; (3) to establish an inflexible routine in the teaching of lessons which teachers administer in a mechanical way. The first kind of formalism might be called verbal formalism and was prominent in some phases of Pestalozzianism. The second kind, the formalism of particular devices, was, and is, especially characteristic of the work of many of the followers of Froebel in the kindergarten. The third kind, the formalism of routine in the teaching of lessons, is prominent in the use of the five formal steps of instruction by the Herbartians. Froebelian and Herbartian formalism will be discussed in later chapters. They are referred to here in order to show how general is the tendency, in connection with educational reforms, to degenerate into some kind of formalism.

Pestalozzi realized the danger of formalism. — Pestalozzi realized clearly the danger of degeneration into formalism and said:

> I know too well how it will be; this poor husk, which is but the mere outward form of my method, will appear to be its real substance to a great number of men, who will endeavor to introduce this form into the narrow circle of their own ideas, and will judge of the value of the method according to the effects it produces in this strange association. I cannot prevent the forms of my method from having the same fate as all other forms, which inevitably perish in the hands of men who are neither desirous nor capable of grasping their spirit. (**6**: 246.)

Herbert Spencer described Pestalozzian formalism in England. — One of the best accounts of Pestalozzian formalism versus the Pestalozzian spirit is found in the second chapter of the work by Herbert Spencer (1820–1903) on "Education," published in 1861. Spencer's chapter contains an exposition of English Pestalozzianism, which, as we noticed in an earlier article, tended toward this formal type. Spencer rejected the particular forms while approving strongly of the fundamental principles. He said:

> While, therefore, we would defend in its entire extent the general doctrine which Pestalozzi inaugurated, we think great evil likely to result from an uncritical reception of his specific devices. That tendency which mankind constantly exhibit to canonize the forms and practices along with which any great truth has been bequeathed to them — their liability to prostrate their intellects before the prophet and swear by his every word — their proneness to mistake the clothing of the idea for the idea itself, renders it needful to insist strongly upon the distinction between the fundamental principles of the Pestalozzian system, and the set of expedients derived for its practice.

This Pestalozzian formalism can be discussed to advantage under two main heads: (1) degenerate object teaching, and (2) extreme and false applications of the theory of proceeding from the simple to the complex.

Degenerate object teaching. *Pestalozzi recommended memorizing words.* — Strange as it may seem, Pestalozzi recommended and carried out in his school the practice of having children memorize lists of words. Herbart, von Raumer, and other visitors to Pestalozzi's schools commented on this anomaly. Lists of nouns and adjectives were made up from the dictionary by the teacher and memorized by the children. Pestalozzi said:

> These lists of words are placed in the hands of the child, merely as exercises in learning to read, immediately after he has gone through his spelling-book; and experience has shown me that it is possible to make the children so thoroughly acquainted with these lists of words that they shall be able to repeat them from memory, merely in the time that

is required to perfect them in reading; the gain of what at this age is so complete a knowledge of lists of names, so various and comprehensive, is immeasurable in facilitating the subsequent instruction of children. (**2**: 78.)

This memorized material included such phrases as "slippery, wormshaped, thick-skinned eel," "crawling, amphibious animals," "long-tailed monkeys," etc. In geography the children memorized long alphabetical lists of the names of German towns before studying their locations on the map. Many other examples of such absurd practices could be cited, which were utterly inconsistent with the theory of basing all instruction on sense perception, that Pestalozzi emphasized.

English books of object lessons became manuals for memorizing. — It was in England that Pestalozzian verbal formalism was most influential in actual practice, resulting in what Spencer called "the well-conceived but ill-conducted system of *object lessons*." In an earlier chapter it was pointed out that one reason why Pestalozzian methods took such a strong hold on English schools was because of the early preparation of a textbook, "Lessons on Objects," by Elizabeth Mayo (1793–1865) and her brother. This textbook was published in 1830 and was very successful. By 1855 it had reached the fourteenth edition, a copy of which I have examined. It was a veritable little encyclopedia of the arts and sciences. The lessons were arranged in five series. The first series contained simple lists of qualities; for example, in the case of leather it was stated that it was flexible, odorous, waterproof, tough, smooth, durable, opaque. The second series gave parts of complicated objects as well as qualities. The third series included nonsensory qualities such as "valuable," and such classifications as "artificial" and "natural." The fourth series continued the classifications and proceeded to discover analogies between physical and moral or spiritual qualities. The fifth series provided exercises for composition, containing lessons on various chemical substances, on solubility, on the

five senses, etc. Finally, there was a vocabulary of words beginning with "aromatic," "adhesive," "affinity," and ending with "vitrifiable," "volatile," "unctuous." All of this, according to the title-page, was intended for children from six to eight years of age.

Mayos criticized memorizing of their lessons. — The motive of the Mayos in preparing this text was to provide a method of object teaching that was not limited by the dearth of suitable objects in the schoolroom, or by the uncertainties of excursions. They clearly realized the danger of the books being used in unprofitable ways. Hence in the preface it was stated that "those who fall into a mechanical way of giving such instruction, and do not perceive the principle involved, completely defeat its intention, and they had far better keep to old plans and old books."

Miss Mayo intended that the facts should be discovered by the children by an actual examination of the objects, the teacher giving new names where necessary. After advising against too much telling by the teacher, she said:

> The writer desires particularly to enforce this remark, having in one or two instances seen the lessons entirely misused. The qualities were told, and the explanation of the terms given, instead of the object being presented to the children, that they might make their own observations upon it, and learn from the teacher how to express qualities clearly discovered by them, though unknown by name.

Dickens satirized formal memorizing of Mayo books. — The practice which Miss Mayo said she had seen "in one or two instances" was really very common and led to the following classic satire on these methods by Charles Dickens in his story entitled "Hard Times."

> Mr. Gradgrind, the town magnate and school patron, is present in the model school of his own creation, where Mr. McChoakumchild surcharges the youthful Coke-towners with grim facts. After a preliminary address to the teachers in this vein —
>
> "Now what I want is facts. Teach these boys and girls nothing but facts. Facts alone are wanted in life. Plant nothing else, and root out

everything else. You can only form the mind of reasoning animals upon facts; nothing else ever will be of any service to them. This is the principle upon which I bring up my own children, and this is the principle upon which I bring up these children. Stick to facts, Sir!"

Having thus relieved himself, that his self-love may be gratified by witnessing the triumphs of his own educational scheming, he calls out, by an appropriate management and catechizing, its distinctive features.

Sissy Jupe, Girl No. 20, the daughter of a strolling circus actor, whose life, no small share of it, has been passed under the canvas; whose knowledge of horse, generic and specific, extends back as far as memory reaches; familiar with the form and food, the powers and habits and everything relating to the horse; knowing it through several senses; Sissy Jupe has been asked to define horse. Astonished at hearing her father stigmatized as a veterinary surgeon, a farrier, and horse-breaker; bewildered by the striking want of resemblance between the horse of her own conceptions and the prescribed formula that represents the animal in the books of the Home and Colonial Society, she dares not trust herself with the confusing description, and shrinks from it in silence and alarm.

"Girl No. 20 unable to define a horse," said Mr. Gradgrind.

Girl No. 20 is declared possessed of no facts in reference to one of the commonest of animals, and appeal is made to one red-eyed Bitzer, who knows horse practically only as he has seen a picture of a horse or as he has, perhaps, sometimes safely weathered the perils of a crowded street-crossing.

"Bitzer," (said Thomas Gradgrind,) "your definition of a horse!" "Quadruped. Graminivorous. Forty teeth, namely: twenty-four grinders, four eye teeth, and twelve incisive. Sheds coat in the Spring; in marshy countries sheds hoofs too. Hoofs hard, but requiring to be shod with iron. Age known by marks in mouth." Thus (and much more) Bitzer.

"Now Girl No. 20," said Mr. Gradgrind, "you know what a horse is."

The methods of the Home and Colonial Infant School Society, mentioned by Dickens, were copied at Oswego, New York. Here they encountered considerable criticism of a similar sort, and this description by Dickens was quoted as evidence against them. Many of the papers on object teaching published during this period (1860) contain comments on the tendency of teachers to have children merely memorize facts about objects instead of providing real experiences with them.

Proceeding from simple to complex. *Favored by Spencer.*— The second large group of formalized Pestalozzian practices resulted from the extreme application of the principle that in the process of instruction the teacher should proceed from the simple to the complex. The validity of this principle will be discussed later in this section. It is open to a variety of interpretations. Thus Herbert Spencer states it as the first of the Pestalozzian principles which he would "defend in its entire extent," but rejects the practices which Pestalozzi described for its application. Spencer defended the principle in these words:

> That in education we should proceed from the simple to the complex is a truth which has always been to some extent acted upon; not professedly, indeed, nor by any means consistently. The mind grows. Like all things that grow, it progresses from the homogeneous to the heterogeneous; and a normal training system, being an objective counterpart of this subjective process, must exhibit the like progression. Moreover, regarding it from this point of view we may see that this formula has much wider applications than at first appears. For its *rationale* involves not only that we should proceed from the simple to the combined in the teaching of each branch of knowledge, but that we should do the like with knowledge as a whole.

Pestalozzi desired to mechanize instruction. — With Pestalozzi this principle was bound up with his desire to mechanize instruction. Describing his work in the second school in which he taught at Burgdorf (1799), Pestalozzi said:

> I once more began crying my ABC from morning to night. . . . I was indefatigable in putting syllables together and arranging them in a graduated series; I did the same for numbers; I filled whole notebooks with them; I sought by every means to simplify the elements of reading and arithmetic, and by grouping them psychologically, enable the child to pass easily and surely from the first step to the second, from the second to the third, and so on. The pupils no longer drew letters on their slates, but lines, curves, angles, and squares. (**6**: 179.)

Shortly after this, when Pestalozzi was explaining his experiments to a visiting French-Swiss official, the latter said, "I see, you want to mechanize instruction." "He had hit

the nail on the head," said Pestalozzi, "and supplied me with the very word I wanted to express my aim and the means I employed." (**6**: 183.)

Later Pestalozzi said that he meant that he desired to psychologize instruction; but the fact remains that what he really did was to reduce much of instruction to a mechanical routine by application of the principle of proceeding from the simple to the complex.

Would organize an alphabet of every subject. — In one of Pestalozzi's last publications, "The Song of the Swan," he said:

> I now came to consider the idea of elementary education from the point of view of means of instruction. From its very nature, it demands the general simplification of its means, which simplification was the starting-point of all the educational labors of my life. At first I desired nothing else, but merely sought to render the ordinary means of instruction for the people as simple as to permit of their being employed in every family. And so in every branch of popular knowledge or talent, I set to work to organize a graduated series of exercises, the starting-point of which was within everybody's comprehension, and the unbroken action of which, always exercising the child's powers without exhausting them, resulted in a continuous easy and attractive progress, in which knowledge and the application of knowledge were always intimately connected. (**6**: 375.)

Pestalozzi said that these graduated series of exercises would make teaching so easy that "schools would gradually almost cease to be necessary, so far as the first elements are concerned."

Thorough mastery of each step required. — Closely connected with the practice of using a minutely graduated series in each subject was the emphasis on the mastery of each step or element before proceeding to the next. This notion of thoroughness was another factor in establishing mechanized routine among the Pestalozzians.

The influence of these principles in the teaching of subjects in the elementary schools was very great, particularly in the case of reading, arithmetic, drawing, writing, and form study.

From simple to complex in teaching reading; synthetic method. — In the teaching of reading the influence of Pestalozzi was to fix and stereotype the synthetic method of beginning with long drills on the letters, and then proceeding to syllables, words, phrases, etc. The first steps in this alphabet-syllable-spelling method of teaching reading Pestalozzi described in these words:

> The spelling-book must contain the entire range of sounds of which the language consists, and portions of it should be repeated daily in every family. . . . No one imagines to what a degree the attention of infants is aroused by the repetition of such simple sounds as *ba*, *ba*, *ba*, *da*, *da*, *da*, *ma*, *ma*, *ma*, *la*, *la*, *la*, etc.

The spelling book contained all the possible combinations of vowels and consonants for such drill. After these had been mastered, words were to be learned by spelling them. As was the case in Salzmann's school, Pestalozzi provided large movable letters to be inserted in a frame by the teacher as a means of class instruction. These methods were copied in the Prussian schools which were described in Professor Stowe's report to the Ohio legislature in 1839. After telling how the children were drilled on the elementary sounds of letters and syllables till they were mastered, Stowe said:

> They were now prepared to commence reading. The letters are printed in large form on square cards; the class stands up before a sort of rack, the teacher places one upon the rack . . . [and says], What letter is that? [Pupils answer] *H*. He places another. What letter is that? *A*. I now move these two letters together, thus: *HA*. What sound do these letters signify? *Ha*. [And so on, adding a letter at a time, the teacher proceeded until he had formed *hard*, *hard fist*, *hard fisted*, *hardfistedness*.] (**3**: 52.)

In the next higher grade the reading proceeded as follows according to Mr. Stowe:

> The sentence is first gone through with in the class, by distinctly spelling each word as it occurs; then by pronouncing each word distinctly without spelling it; a third time by pronouncing the words and mentioning the punctuation points as they occur [and so on until the sentence

is finally read with expression]. Thus one thing is taken at a time, and pupils must become thorough in each as it occurs, before they proceed to the next. (3: 52.)

In the Oswego schools, similar synthetic methods were used, but with special emphasis on the phonic values instead of the names of the letters.

Study of form, drawing, and writing.—Applying the general principle of reducing each subject to its elements, Pestalozzi maintained that the elements of drawing and writing are lines and geometrical figures of various sorts, and that long drill in these elements as arranged in his "alphabet of form" should be the first step in instruction. These practices were copied in England and America.

The elements of form with which the children were to be made acquainted occupied sixty pages in N. A. Calkins's "Primary Object Lessons" (1861), one of the best of the numerous books on object teaching published in America about the time of the Oswego movement. This included instruction about corners, sides, straight and curved lines, plane and curved surfaces, right, acute, and obtuse angles, equilateral and right-angled triangles, perpendicular, horizontal, and parallel lines, the square, rhomb, and parallelogram, pyramids, prisms, cubes, circles, semicircles, circumferences, arcs, center, radius, diameter, cylinders, cones, spheres, hemispheres, and ovals. Calkins's book was largely an imitation of Miss Mayo's, which included, in addition to the above, the tetrahedron, octahedron, pentagonal dodecahedron, icosahedron, rhombic dodecahedron. All of this was to be taught in infant or primary schools and was partly correlated with the teaching of drawing.

The teaching of drawing was to begin with the making of these geometrical figures, starting with various kinds of lines, etc. Spencer, while defending the principle of proceeding from the simple to the complex, said that he wholly disapproved of this "formal discipline in making straight lines

and compound lines." A drawing book constructed on these principles he denounced as "the most vicious in principle" which he had seen.

Writing was taught in connection with drawing in the Pestalozzian methods. The letters were analyzed into straight, curved, and slanting lines, into acute and obtuse angles, etc., and drill given on these before proceeding to write letters, words, and phrases.

Thorough mastery of elements in arithmetic; Grube method. — In the preceding chapter the improvements that had been made in the teaching of arithmetic by applying the Pestalozzian principle of sense perception were discussed in connection with Warren Colburn's "First Lessons," which was published in Boston in 1821. The Pestalozzian principle of reducing each subject to its elements and requiring thorough mastery of each element before taking up the next was also very influential as applied to the teaching of arithmetic. This application was emphasized by a German, Grube (1816–1884), in a work published in 1842. Grube was not original in his system of teaching arithmetic. He copied a number of Pestalozzi's characteristic ideas, notably the sense-perception basis, as well as ideas from other sources. The essential characteristic for our present purposes, and the one by which the system is most commonly known, is the practice of considering each number as an individual, and mastering all the possible operations with it, namely, addition, subtraction, multiplication, and division, before taking up the next number. This differs radically from the common practice of first teaching counting, sometimes up into the millions, then addition of all numbers, then subtraction, then multiplication and division. Inasmuch as Grube began with the number one, which was mastered before proceeding to number two, and so on up to ten, counting was definitely eliminated. The first year was spent on the numbers from one to ten, and the first three years on the numbers up to one hundred.

Grube method popularized in America, 1870. — One of the chief influences in popularizing the Grube method in the United States was an essay describing it, read by Mr. L. Soldan before the St. Louis Teachers' Association in 1870. According to its author, this essay was "republished extensively in state and city school reports and educational magazines . . . from California (see *San Francisco Report*, 1872) to New Hampshire (see *State Report*, 1876)." A larger treatment of the subject was contained in "Grube's Method of Teaching Arithmetic," by Levi Seeley, published in New York in 1888. According to Professor David E. Smith,

> it thus became . . . almost the only German "method" known in America. Thus it has come about that Grube has been looked upon as a name to conjure by, and neither the faults nor the virtues (much less the originality) of the system seem to have been well considered. (**10**: 90.)

Grube method unnecessarily thorough. — The Grube method has been severely criticized by the two leading American writers on the theory of teaching arithmetic. Professor Smith says:

> To know all there is about a number before advancing to the next one is as unnecessary as it is illogical, as impossible as it is uninteresting. . . . [Two of] the chief defects of the system are these: 1. It carries objective illustration to an extreme, studying numbers by the aid of objects for three years, until 100 is reached. 2. It attempts to master each number before taking up the next, as if it were a matter of importance to know the factors of 51 before the child knows anything of 75, or as if it were possible to keep children studying 4 when the majority know something of 8 before they enter school. (**10**: 90.)

Professor John Dewey, the other prominent critic of the Grube method, says:

> It seems absurd, or even worse than absurd, to insist on thoroughness, on perfect number concepts, at a time when perfection is impossible. . . . If the child knows 3, if he has an intelligent working conception of 3, he can proceed in a few lessons to the number 10, and will have all higher numbers within comparatively easy reach. (**10**: 118; **7**: 172, 176.)

Criticism of proceeding from simple to complex. — Pestalozzi thought he was psychologizing instruction by having the teacher analyze each subject into a graduated series of elements which were to be learned by the pupil in order. He thought that the work of the educator should be analytic and that of the learner synthetic. This implied that the natural process of learning, which he was trying to discover, consisted in building up complex wholes from elements which could not be further analyzed.

Pestalozzian theory held by English associationists. — This theory of the way in which we learn was not unique with Pestalozzi. Many psychologists have believed it. Prominent among these were the whole English school of associationists and Herbart, the German follower of Pestalozzi. The subject is too involved to be discussed here in a clear and satisfactory manner, but a little must be said to suggest the recent criticisms of Pestalozzi's fundamental principle. Reference has been made several times to Spencer's discussion of this theory. What he believed is not perfectly clear, but certainly one of his most important contentions would be rejected by many modern psychologists as being just the opposite of the truth. I refer to his statement of the theory as follows :

> Manifestly decomposable states of consciousness cannot exist before the states of consciousness out of which they are composed . . . [thus] no articulate sound [for example, a word] is cognizable until the inarticulate sounds which go to make it up have been learned.

It was on this theory that Pestalozzi said that the mother should address the infant with inarticulate sounds such as *ba, ba, ba, da, da, da,* etc., before she tried to teach him to recognize whole words (articulate sounds) like "bottle," "mother," etc.

William James (1842–1910) rejected simple to complex theory of learning. — The best criticism of this theory occurs in William James's "Principles of Psychology." In direct

opposition to Spencer's point, James (the greatest of American psychologists) said that the child's experience, instead of beginning with nicely separated elements, is

> one big, blooming, buzzing confusion. That confusion is the baby's universe; and the universe of all of us is still to a great extent such a confusion, potentially resolvable, and demanding to be resolved, but not yet actually resolved into parts. . . .
>
> Experience from the very first presents us with concreted objects vaguely continuous with the rest of the world which envelops them in space and time, and potentially divisible into inward elements and parts. These objects we break asunder and reunite.

Analysis by the learner prominent in ordinary learning. — As a rule, in the ordinary process of learning, the individual things with which we become acquainted are complex wholes; we recognize, identify, and remember them without completely analyzing them, and may never analyze them unless some practical necessity requires it. Thus in the case of the so-called taste of coffee or onions, this necessity usually does not arise, and as a consequence we do not know ordinarily how much of the so-called "taste" is really taste and how much is odor. Or, to take the example that Spencer suggests: as a matter of fact, the child recognizes spoken words as wholes long before he has become acquainted separately with the elementary sounds which compose these words. In the same way the child recognizes visual wholes (doors, windows, etc.) long before he has become acquainted with the various kinds of lines, angles, and shades of color which are fused in the total experience.

In mastering any new situation or material, for example, in becoming familiar with a strange city, or in solving a geometry exercise, or in studying pictures to determine their artistic qualities, the following process takes place: The mind begins by apprehending the situation as a vague, unanalyzed whole; proceeds by comparison or selective attention to break this whole up into its parts (as far as necessary for the practical

purpose of the moment); and then reconstructs (synthesizes) these parts into an organized whole in which the relation of the parts is more or less clearly perceived. Hence the natural method of learning involves an initial analysis by the learner (not by the teacher) followed by a synthesis by the learner; that is, it is analytic-synthetic.

Partly as a consequence of this change in psychological theory, the Pestalozzian methods of teaching reading and drawing by proceeding from simplified elements to complex wholes have been rejected in many places, and methods substituted which are more in harmony with the analytic-synthetic theory of the psychology of learning which is maintained by James and his followers.

Widespread and varied influence of Pestalozzi demonstrated. — This will conclude our four chapters on the Pestalozzian movement and methods. The first of these chapters demonstrated the intimate connection which existed between the work of Pestalozzi and the social-reform movement led by Rousseau, and showed the widespread influence of Pestalozzi in Europe and America. The second Pestalozzian chapter described the development of the system of industrial training for the reform of juvenile delinquents. The third showed the large and *beneficial* influence exerted on the teaching of language, science, geography, and primary arithmetic by the application of the Pestalozzian principles of objective and oral instruction. The present chapter, on the other hand, has shown the *pernicious* influence of certain aspects of Pestalozzianism, which resulted in the memorizing of bare facts in the content subjects (geography, etc.), and in the long and dreary grind on meaningless elements in the form studies (reading, etc.). The next two chapters will trace further developments in elementary-school theory and practice during the nineteenth century. Some of these developments started with Pestalozzi, some were directly opposed to his theories, and all went far beyond what he had been able to achieve.

BIBLIOGRAPHICAL NOTES

1. SPENCER, HERBERT. *Education.* (1861.) Chap. ii, entitled Intellectual Education, contains the best critical accounts of Pestalozzian formalism.

2. BARNARD, H. *Pestalozzi and his Educational System.* (C. W. Bardeen, Syracuse, n.d.) Article by Dr. Wilbur, pp. 479–498. A criticism of Oswego formalism by a contemporary. Reflects Spencer.

3. BARNARD, H. *National Education in Europe.* (C. W. Bardeen, Syracuse, 1854.) Contains descriptions of Prussian lessons reprinted from reports of Stowe, Mann, etc., of about 1840. Especially pp. 49–74.

4. JAMES, WILLIAM. *Principles of Psychology.* (Henry Holt and Company, 1890.) Vol. I, chap. xiii, and elsewhere. The source of most of the recent criticisms of the theory of proceeding from the simple to the complex.

Other works referred to in the text. — 5. CALKINS, N. A. *Primary Object Lessons.* (Harper & Brothers, 1862.)

6. GUIMPS, ROGER DE. *Pestalozzi, his Aim and Work.* (D. Appleton and Company, 1890.)

7. DEWEY, JOHN, and MCCLELLAN, J. A. *The Psychology of Number.* (D. Appleton and Company, 1895.)

8. MAYO, ELIZABETH. *Lessons on Objects.* (London, 1830–1855.)

9. SEELEY, L. *Grube's Method of teaching Arithmetic.* (Kellogg, 1888.)

10. SMITH, D. E. *The Teaching of Elementary Mathematics.* (The Macmillan Company, 1900.)

CHAPTER XVII

MORAL TRAINING THROUGH A METHODICAL, INTERESTED STUDY OF HISTORY AND LITERATURE; THE HERBARTIANS[1]

Main points of the chapter. — 1. The Pestalozzian methods dominated instruction in the scientific and the formal subjects of the elementary-school curriculum during the nineteenth century.

2. The Herbartians, on the other hand, emphasized the study of history and literature which Rousseau and Pestalozzi had considered unimportant and even harmful for young children.

3. Herbart (1776–1841) was influenced to do this by the eighteenth-century enthusiasm for Greek life and literature (the new humanism championed by Goethe and Schiller).

4. To attain the moral aim of education Herbart emphasized the Greek idea of abiding, many-sided interests as the aim of instruction.

5. To assure abiding interests, he emphasized using present interests as an important means.

6. He emphasized the methodical organization of the material of each subject, and a moderate degree of the interrelating of various subjects, so as to make them a part of the student's personality.

7. The Herbartian pedagogy was popularized in Germany through the theoretical publications of Ziller (1865) and through its practical application at the University of Jena practice school (1874——).

8. A wave of enthusiasm for the Herbartian pedagogy swept over the United States about 1890.

9. This later Herbartian movement in Europe and America has emphasized the following points: (1) the concentration of all school work around a central core, usually of literary and historical subject matter; (2) the serial arrangement of subject matter according to the chronology of its historical development (the culture-epochs theory); (3) the organization of every unit of instruction according to the five formal steps of instruction, namely, preparation, presentation, comparison, generalization, and application.

[1] Special supplementary reading for advanced students: Herbart, "Outlines of Educational Doctrine." See above, p. xxiv, for directions.

Pestalozzians commonly neglected history and literature. — The two preceding chapters, which summarized the influence of Pestalozzians on the teaching of various subjects, showed that the dominant reform tendencies in the teaching of elementary science, geography, arithmetic, form study, oral composition, reading, writing, and music during the nineteenth century were Pestalozzian. On the other hand, in the teaching of history and literature, the lack of direct influence from Pestalozzi is as striking as was his positive influence in other subjects. Rousseau had specifically rejected history as a subject appropriate for children, and Pestalozzi gave it little or no place in his curriculum.

Herbartians emphasized the teaching of history and literature. — Herbart and his followers have contributed somewhat to the development of the teaching of the subjects in which Pestalozzi was interested, but they have not improved much on the methods of the best Pestalozzians. On the other hand, their largest influence has been on the teaching of history and literature for moral training. In this connection they have formulated a discussion of interests and of the methodical treatment of subject matter which has become the accepted basis for the training of teachers in many places.

Herbart's connection with Pestalozzi very close. — In the discussion of Pestalozzi the fact was demonstrated that he was directly inspired by Rousseau. Similarly, in the case of Herbart, it is important to appreciate the direct connection between Herbart and the Pestalozzian movement. As noted in Chapter XIII, Herbart visited Pestalozzi's school at Burgdorf in 1799 and made a special study of the latter's methods. An account of his impressions from this visit was published in 1802 for the benefit of certain ladies in Bremen who were interested in Pestalozzi's work. This account appeared in a German periodical and was entitled "On Pestalozzi's most Recent Publication: 'How Gertrude taught her Children.'" In this article Herbart described what he saw in Pestalozzi's

school and defended several of the practices current therein, concerning which some questions had been raised. He suggested supplementing Pestalozzi's sense-perception instruction

JOHANN FRIEDRICH HERBART

with a study of triangles. This suggestion Herbart carried out on an elaborate scale in a later publication (second edition, 1804), in which he maintained that mathematics is the key to training in sense perception and drawing. This book

bore the title "Pestalozzi's Idea of an ABC of Sense Perception investigated and scientifically carried out as a Cycle of Preliminary Exercise in the Apperception of Forms." At another time, in an address delivered in Bremen, Herbart, after considering certain narrow examples of the Pestalozzian practice, said, "The whole field of actual and possible sense perception is open to the Pestalozzian method; its movements in it [this field] will grow constantly freer and larger." (1: 61.)

These incidents show that Herbart was closely in touch with Pestalozzi's methods, and that he defended the latter and interpreted and applied them in a broad way.

Herbart's career almost purely academic. — Herbart's life (1776–1841) was spent so exclusively as a tutor and as a university teacher that the points that are significant in relation to his pedagogical achievements may be briefly summarized. The reverse of Pestalozzi, he manifested little interest in the revolutionary social events which characterized the age in which he lived. The significant factors in his career were (1) three years' experience as a tutor; (2) the connection with Pestalozzi; (3) pedagogical lectures and publications as a university professor of philosophy; (4) conduct of a pedagogical seminary and practice school.

1. *Three years as a tutor.* — At the age of twenty-one, having completed three years of university study, he accepted a position as tutor to three children in an aristocratic Swiss family. The three boys were respectively fourteen, ten, and eight years of age. Herbart taught them for nearly three years (1797–1799). So profitable was this experience in providing a knowledge of the development of children and of the practical problems of teaching, that Herbart always claimed that such a thorough study of the development of a few children is the best basis for pedagogical training. Much of this experience is reflected in his very concrete discussions of the characteristics and the individual differences of children,

which are contained in his books on pedagogy — the same sort of careful analysis of child experience as is found in the works of Rousseau and Pestalozzi.

2. *The connection with Pestalozzi* has been described above.

3. *Educational publications as a professor of philosophy.* — Herbart taught at the University of Göttingen from 1802 to 1808, at the University of Königsberg from 1809 to 1833, and again at Göttingen from 1833 to 1841. Some of his university positions ranked among the highest professorships of philosophy in Germany. As a part of his duties Herbart gave courses of lectures on pedagogy, which interested him fully as much, if not more, than did philosophy. He published a number of books on pedagogy, of which two are most significant. These are known in their English translations as "The Science of Education," published in 1806, which contained many difficult and abstract metaphysical references; and "The Outlines of Educational Doctrine," published in 1835. This was the product of his matured career and is one of the most systematic, sane, and practical discussions of pedagogy ever written.

4. *Conducted a pedagogical seminary.* — At Königsberg Herbart conducted a pedagogical seminary for the advanced scientific consideration of educational problems, and a small practice school (twenty children); the latter provided experience for prospective school superintendents and opportunities for the experimental investigation of methods of teaching. Herbart taught mathematics in the practice school for some time.

Herbart's metaphysics a useless encumbrance to his pedagogy for young students. — The study of Herbart's pedagogy has often been made unnecessarily difficult because of the following facts: (1) his position was that of a professor of philosophy; (2) some of his pedagogical writings are filled with metaphysical references; and (3) he constructed

a system of psychology containing considerable metaphysics. In view of these facts, many of the commentators on Herbart have felt that it was necessary, in order to understand his pedagogy, to present a discussion of his metaphysics and his metaphysical psychology. I shall take the position that this is not only unnecessary but that it is also confusing, especially for young students. This position is justified by the following points:

1. *Many competent critics maintain that Herbart's metaphysics is inconsistent with his pedagogy.* The best known American expression of this point is Professor John Dewey's discussion of Herbart's theory of interest. After summarizing Herbart's pedagogical doctrine of interest he says, "All this seems to me sound educational sense. . . . But when we go to the psychology of interest, we find an account which not only does not justify previous statements, but actually contradicts them." (**8**: 28.)

2. *Many of Herbart's followers who accept his system of pedagogy reject his metaphysics.* In one of the recent monographs on Herbart these followers are discussed as follows:

> . . . Even such redoubtable champions of Herbart as Dr. F. H. Hayward admit the incompleteness if not erroneousness of Herbart's metaphysics and psychology. Yet Dr. Hayward and the class of Herbartians of which he may fairly be reckoned as typical, maintain that no sort of criticism of Herbart's philosophy militates against the practical value of his educational doctrines; that as these last were not deduced from the philosophy, all criticism of the philosophy which is intended as an indirect attack on the pedagogy is irrelevant and futile. (**9**: 2.)

3. As suggested in the last paragraph, *Herbart derived his pedagogical theory primarily from his experience as a tutor* and from other nonmetaphysical sources. Some of these will be noted later. To a considerable extent his metaphysical and psychological studies were motivated by a desire to find a scientific justification of his pedagogical system.

4. *Herbart's mature work*, "The Outlines of Educational Doctrine," *contains only a few pages of metaphysical discussion*. Two thirds of the book is a concrete discussion of methods which is easily appreciated simply on the basis of common sense. As Professor J. H. von Fichte said in 1869:

> We find in almost no work, as far as pedagogical literature is known to us, so many practical, comprehensive hints, precepts and warnings, in as small a space, as in Herbart's Outlines. . . . They betray everywhere the sharp glance of the experienced teacher which Herbart was. . . . They are emphatically recommended to the earnest consideration of every educator, particularly every teacher. . . . We scarcely presume too much, when we assert that Herbart was the first among all the German pedagogical writers to introduce order, light, and a comprehensive gradation of pedagogical problems, as also a quiet insight into pedagogical procedures, into the previously fragmentary mass of observations and precepts. (**10**: 296–298.)

Herbart emphasized the practical limitations of education.—There is one special correction to notice in order that the student may appreciate the difference between this discussion of Herbart which is based on his pedagogy, and other discussions which emphasize his metaphysics. According to his metaphysics (as generally interpreted), the possibilities of education are unlimited. According to his pedagogy, on the other hand, the teacher must keep constantly in mind the limitations of education. The following quotations from his "Outlines of Educational Doctrine" make this point clear, although they are from the most metaphysical sections of the book:

> The assumption of unlimited plasticity is equally inadmissible; it is for psychology to guard against this error. The educability of the child is, to begin with, limited by his individuality. Then, too, the possibility of determining him and moulding him at will through education is lessened by time and circumstance. . . . Education seems thus to find a barrier, first, in the order of nature, and later in the pupil's own will.
>
> The power of education must be neither over- nor under-estimated. The educator should, indeed, try to see how much may be done; but he must always expect that the outcome will warn him to confine his attempts within reasonable bounds. (**4**: §§ 4, 5, 6.)

> Now in order to gain an adequate knowledge of each pupil's capacity for education, observation is necessary, observation both of his thought masses and of his physical nature. (4: § 34.)

This statement is followed by detailed suggestions for observing children at their games, estimating their mental capacities, etc.

Thus, from the standpoint of practical education, we find Herbart emphasizing its essential limitations and the necessity of studying each individual in order to adjust his education to his peculiar possibilities and needs.

These suggestions concerning Herbart's metaphysics have been necessary in order that the student may appreciate certain characteristics of the point of view taken in this chapter, which differs from that taken in some other interpretations. We shall now proceed to a consideration of the main topic of the chapter, namely, the emphasis by the Herbartians on an interested, methodical study of history and literature for purposes of moral training.

Herbart profoundly influenced by new humanism. — In earlier chapters we studied the leaders in educational reform in relation to the dominant social movements with which they were connected: namely, Rousseau in connection with the emotional reaction, with the democratic movement culminating in the French Revolution, and with the psychological movement started by Locke; Pestalozzi in connection with the French and Swiss social revolutions, the regeneration of Prussia, etc. As noted above, Herbart was little interested in politico-social developments, but led a purely academic career. In the academic or intellectual life in which he participated there were two prominent movements which affected him: one was the development of philosophic thought; the other was new humanism. We noted above that the study of his philosophy is relatively futile in an elementary consideration of his pedagogy. It remains to consider his relation to the new humanistic movement of the eighteenth century. To

understand new humanism it will be necessary to compare it briefly with the earlier humanistic movement of the fifteenth and sixteenth centuries, which is ordinarily known as the Renaissance.

Sixteenth-century Renaissance interested in Roman civilization. — Eighteenth-century humanism in called *new* in contrast with the humanism of the fifteenth- and sixteenth-century Renaissance. The Renaissance was a development of modern ideals and methods in contrast with those of the Middle Ages. It affected all phases of life — commercial, political, religious, æsthetic, literary, etc. Its early ideals corresponded so closely to those of the Romans that a revival of classical study — the study of the classical literature of the ancients — became one of its chief elements. The humanists of the North Italian cities — Florence, Milan, Venice, etc. — found expressed, in the Latin literature particularly, the sentiments that were dominant in their own life. The life of these little city states was similar in many respects to that of the ancient city states, such as Athens and Rome; hence the interests were the same. Consequently Cicero's discussions of the life of the ideal public citizen, the orator, became the standard guide for Renaissance humanists, and Quintilian's "Institutes of Oratory" became the accepted guide in education. The Latin language was the best vehicle for expressing these interests and ideals; hence it became the subject of most important study. A revival of an interest in the Greek language and literature was also an important element in the Renaissance, but it was not as prominent or as lasting as the interest in Latin. New types of schools developed which in the beginning provided a many-sided liberal education like that described above, on page 166.

Latin humanism of Renaissance declined by eighteenth century. — The broader interests of the early Renaissance soon declined, and it was not long before practically all that was left in the schools was a study of the Latin language for

purely linguistic purposes. In Germany, particularly, was this decline prominent. As Ziegler says, by the beginning of the eighteenth century Latin was still studied because it was the language of the learned classes, but without any of the original spirit of enthusiasm, appreciation, or pleasure. Greek was almost completely neglected, except by theological students, who studied it only in connection with the New Testament. Everywhere the study of the classical languages was considered a necessary evil, to be finished as soon as possible; because the spirit had flown, no one retained a real interest in the dead bones that remained.

New humanism developed from German nationalism. — Just as the early phases of Renaissance humanism were due to the intense development of city-state life in northern Italy, in a similar way the new humanism of the eighteenth century in Germany developed in connection with the beginnings of German nationalism and individualism which were described in Chapters VI and X. It was not only in Prussia but also in other parts of Germany, notably in Hanover and Saxony, that the new spirit found a place.

Greek ideals assimilated by German humanists. — As described in the earlier chapters, this new spirit of independence, with the additional stimulus from Rousseau, found expression in the new German literature of which Goethe (1749–1832) and Schiller (1759–1805) are the best known representatives. This literary movement, which was so closely connected with the national development, found its ideal models in the literature of the Greeks, which expressed the same spirit of individualism that was manifesting itself in German life. The following statement by Professor Paulsen gives a brief summary of the characteristics of new (or neo-) humanism in its relation to the Rousseau movement.

> . . . Neo-Humanism rested on the conviction that the true civilization and education sought after by Rousseau was to be found in full perfection in the Hellenic world. It regarded Greek culture as the consummation

and idealization of Nature and the Hellenic type of man as the full and unrestricted realization of the idea of human kind as conceived by the creative spirit of Nature. Accordingly it was thought to be the object of education to form the young on the Greek model . . . to imbue their minds with the Hellenic sentiment, with courage and energy to search after truth, with manly will-power to uphold themselves against hostile forces without and within, with an enthusiastic love for all that is beautiful and perfect. . . . [This] second Renaissance saw the golden age in the glorious days of Athenian art and literature. . . . The high tide of Neo-Humanism reached its culmination about the end of the eighteenth century. Goethe and Schiller, having come together on the ground of Neo-Humanism, dominated German literature and imbued it with the belief that the Hellenic world was the highest manifestation of humanity. (2: 161.)

New humanism affected elementary education indirectly. — In the history of secondary and higher education a much longer discussion of new humanism would be necessary because these forms of education in Germany were so profoundly affected by it. Elementary education, however, was affected only indirectly. This influence was exerted by Herbart's followers. Herbart himself had little interest in elementary education, and most of his discussions concern the work of secondary schools. His followers, on the other hand, have been most interested in elementary education. Herbart elaborated the ideals of new humanism in their application to education generally, but especially to secondary education. His followers have made application of the same principles to elementary education.

Herbart enjoyed new humanistic atmosphere at Jena, 1794–1797. — In Herbart's life as a student there were three primary interests — philosophy, mathematics, and Greek. He early gave evidence of philosophical genius. The mathematical interest manifested itself in later life in the development of the "ABC of Sense Perception" and a unique system of psychology involving the mathematical measurement of ideas. But it was his interest in Greek literature which was the most important factor in his improvement of Pestalozzian pedagogy.

At the University of Jena, where Herbart was a student (1794–1797), he was strongly influenced by the new humanistic enthusiasm for Greek. Near Jena was Weimar, the literary capital of Germany, the home of Goethe and Schiller, the two great exponents of Greek culture. Under the influence of Schiller philosophy and poetry were developed together. Consequently, at Jena, Herbart participated in an enthusiastic study of Greek philosophy and literature, especially the Odyssey. Among other things he wrote an essay on certain musical aspects of Homer's poems.

Herbart made the Odyssey the basis of moral instruction.— Herbart's enthusiasm for the Odyssey is clearly shown in a single sentence in "The Science of Education." He said, "I am indebted to the Odyssey for one of the happiest experiences of my life, and in a great degree for my love of education." (**7**: 90.) When Herbart left Jena to become the instructor of the three boys in Switzerland, he made the Odyssey the basis of instruction in Greek instead of the textbooks ordinarily used. One of his chief reasons for using the Odyssey was for the moral development that would result. Later he discussed this reason at length in his works on education. Speaking of the development of sympathy as one of the fundamental factors in moral development, by means of literature and history, he said:

> The intent to teach spoils children's books at once; it is forgotten that every one, the child included, selects what suits him from what he reads, and judges the writing as well as the writer after his own fashion. Show the bad to children plainly, but not as an object of desire, and they will recognize that it is bad. Interrupt a narrative with moral precepts and they will find you a wearisome narrator. Relate only what is good, and they will feel it monotonous, and the mere charm of variety will make the bad welcome. Remember your own feelings on seeing a purely moral play. But give to them an interesting story, rich in incidents, relationships, characters, strictly in accordance with the psychological truth, and not beyond the feelings and ideas of children; make no effort to depict the worst or the best, only let a faint, half-unconscious moral tact secure

that the interest of the action tends away from the bad towards the good, the just, the right; then you will see how the child's attention is fixed upon it, how it seeks to discover the truth and thinks over all sides of the matter, how the many-sided material calls forth a many-sided judgment, how the charm of change ends in preference for the best, so that the boy who perhaps feels himself a step or two higher in moral judgment than the hero or the author, will cling to his view with inner approbation, and so guard himself from a coarseness he already feels beneath him. The story must have one more characteristic, if its effect is to be lasting and emphatic; it must carry on its face the strongest and cleanest stamp of human greatness. . . . I know of only one place where such a written story may be found — the classical age of childhood among the Greeks, and I consider the Odyssey ranks in the first place. (**7**: 89.)

An illuminated spot for the whole of posterity is formed by the classical representations of an ideal boyhood in the Homeric poems. If we are not afraid to allow the noblest among languages [Greek] to take precedence, in our instruction, of the accepted learned language [Latin] we shall, on the one hand, escape numberless perversions and distortions in everything touching the right understanding of literature and history of mankind, of opinions and of arts; and we shall, on the other, be made sure of presenting to the child's interest, events and characters which he can perfectly grasp, and from which he can go on to endlessly varied self-reflections on human beings and society, and the dependence of both on a higher power. (**7**: 73.)

The earliest cultivation of the child's feelings will have been a failure, if, after taking his full pleasure in the characters, the moral impression left from these old stories is doubtful. . . .

Periods which no master has described, whose spirit no poet breathes, are of little value to education. . . . (**7**: 73–74.)

These quotations from Herbart's own writings bring out clearly the following points: (1) In general he is merely expressing the principles of the new humanistic movement. (2) Literary and historical materials are considered especially valuable as sources of moral ideas and sentiments. (3) Satisfactory stories for moral instruction (*a*) should not be especially constructed moral tales, (*b*) should be adapted to the child's understanding, (*c*) should be interesting to the child. (4) Of all literature, the Odyssey is the best starting point for such instruction.

Systematic discussion of Herbart's theory. — The previous discussion was intended to demonstrate Herbart's historical position, namely, his connection with Pestalozzi and especially his participation in the new humanistic movement. We will now take up a more systematic consideration of his educational doctrine.

Aim of education. *Like Locke and Pestalozzi, Herbart emphasized moral training.* — "The term 'virtue' expresses the whole purpose of education," according to Herbart. Thus he emphasized the same function of education as did Pestalozzi in his plans for individual reform and social regeneration through education. It is the same purpose emphasized by Locke in theory, by the English secondary schools in practice, and by scores of other writers and systems. As Pestalozzi had planned, so with Herbart moral training was not to take the place of religious instruction, nor was religious instruction in itself sufficient, but the two were to work together to develop the right insight, sentiments, and habits.

Development of many-sided interest the aim of instruction. — Like Rousseau and Pestalozzi, Herbart emphasized the idea of many-sided development. Rousseau had phrased this idea in terms of the maturing and cultivating of the child's instincts and capacities, to prepare him for a broad manhood and general efficiency (see p. 204). Pestalozzi and his followers phrased the idea in terms of "the harmonious development of all the powers" (see p. 276). Herbart criticized this formulation and substituted one which more nearly expresses the ideal of the Greek liberal education. His formulation of the idea of many-sided development is in terms of interests as the aim of instruction, and is admirably stated in the following paragraph from his "Outlines of Educational Doctrine":

> The ultimate purpose of instruction is contained in the notion, virtue. But in order to realize the final aim, another and nearer one must be set up. We may term it many-sidedness of interest. The word "interest"

stands in general for that kind of mental activity which it is the business of instruction to incite. Mere information does not suffice; for this we think of as a supply or store of facts, which a person might possess or lack, and still remain the same being. But he who lays hold of his information and reaches out for more takes an interest in it. Since, however, this mental activity is varied, we need to add the further determination supplied by the term "many-sidedness." (**4**: §62.)

Herbart introduced interest as a permanent product.— The first point to notice in connection with this quotation is that in Herbart's own account the idea of interest is introduced as an end or aim, that is, as a permanent result of education. This is clearly suggested by the term "abiding" many-sidedness of interest which he uses in other places. The ordinary discussions in recent years, of the place of interest in education, have been concerned for the most part with interest as a means of getting school work done; the emphasis has been on the present interest of the child instead of on the abiding interests which it is the business of education to establish. Herbart considered *interest as a temporary means* subordinate to the larger question of *interests as permanent products* of education.

Interest an active reaching out.— The quotation given above emphasized the essentially active nature of interest as conceived by Herbart (in his pedagogy, not in his metaphysics). A person is interested in an experience when he "lays hold of it and reaches out for more." Interest, then, is measured by the energy with which a person actively goes after an experience, not merely by his passive enjoyment. This is important in relation to many criticisms of the interest theory of education, criticisms which conceive of interest purely in terms of having the children passively amused and stimulated. The active element in interest is further emphasized by Herbart in the following quotation:

Interest means self-activity. The demand for many-sided interest is, therefore, a demand for many-sided self-activity. But not all self-activity, only the right degree of the right kind, is desirable; else lively children

might very well be left to themselves. There would be no need of educating or even governing them. It is the purpose of instruction to give the right direction to their thoughts and impulses, to incline these toward the morally good and true. Children are thus in a measure passive. But this passivity should by no means involve a suppression of self-activity. It should, on the contrary, imply a stimulation of all that is best in the child. (**4**: § 71.)

Herbart, Pestalozzi, and Rousseau on many-sidedness. *Herbart rejected Pestalozzian development of faculties.* — Herbart's formulation of many-sided training in terms of interests avoids many of the difficulties of Pestalozzi's "harmonious development of all the faculties" which has been criticized and rejected by many psychologists. One of Herbart's greatest contributions to educational psychology was his rejection of the "faculty psychology" and the "formal-disciplinary" conception of education based on it. Recent discussions (notably the next to the last chapter in E. L. Thorndike's "Principles of Teaching," 1906) have revived the criticism of the disciplinary theory of education which was dominant during the nineteenth century under the influence of the Pestalozzians. The problem is so involved that we shall not try to present the criticisms here, but shall quote a brief paragraph from Herbart to suggest his position. The statement is so abstract, however, that the student need not worry if he cannot understand it.

It is an error, indeed, to look upon the human soul as an aggregate of all sorts of faculties; but this error only becomes worse when, as is usually done, the statement is added that faculties are at bottom one and the same active principle. The traditional terms should rather be employed to distinguish mental phenomena that present themselves to experience as successively predominant. (**4**: § 20.)

Herbart's formulation a guide to subject matter, Rousseau's a guide to method. — When we compare Rousseau's formulation of many-sided culture, in terms of the cultivation of instincts and capacities, with Herbart's formulation in terms of abiding interests, we find that each one has its advantages.

Rousseau's formulation has the advantage of focusing the attention on the actual inborn tendencies in the child, saying, "Here is a wealth of raw material, from it we will build our many-sided individual." Herbart did not emphasize so clearly these inborn starting points. He examined, rather, the complex social life in which the adult must participate, and said, "We find that these are the interests which are appropriate for the cultivated man, let us make them the ends in education." While this point of view does not furnish so clearly defined a starting point for instruction as does Rousseau's analysis of the child's inborn tendencies to activity, it furnishes a more valid basis for the selection and rejection of subject matter. Herbart's formulation furnishes a better criterion for determining what the final product of education should be — what are the activities for which the educated man should be trained. Rousseau's formulation furnishes a better psychological basis for determining the methods to be used in attaining these ends.

Subject matter. *Herbart's analysis in terms of interests.*— Herbart applied his formulation of the aim of instruction to outlining the subject matter of instruction in terms of interests. Most educational theorists have made some such analysis of experience to obtain the fundamentally different kinds of material. For example, Pestalozzi's classification was into language, number, and form as including the essential elements in elementary education. Herbert Spencer furnishes another example in his essay entitled "What Knowledge is most Worth" (1859), where he enters into an analysis of life's activities and divides them into the following classes: (1) those related to preserving life and health; (2) vocational activities, or those related to earning a living; (3) domestic activities, or those related to family duties and care of children; (4) social and political activities; (5) leisure activities, art, etc. Education, according to Spencer, should prepare for these various lines of activity.

Herbart's analysis of subject matter in terms of typical human interests is shown in the following classification :

Interests related to experiences with *things*.

1. Empirical interest; observation of things.
2. Speculative interest; reflection about natural laws.
3. Æsthetic interest; contemplation of and feeling for the beautiful.

Interests related to experiences with *people*.

4. Sympathetic interest; kindly disposition toward people.
5. Social interest; participation in public affairs.
6. Religious interest; contemplation of human destiny.

Herbart in his "Outlines" introduces these six types of interest in the following paragraph :

Instruction is to be linked to the knowledge that experience provides, and to the ethical sentiments that arise from social intercourse. Empirical interest relates directly to experience [with things], sympathetic interest to human association. Discursive reflection on the objects of experience involves the development of speculative interest, reflection on the wider relations of society [involves the development] of social interest. With these we group, on the one hand æsthetic, on the other religious interest, both of which have their origin not so much in discursive thought as in a non-progressive contemplation of things and human destiny. (**4**: §83.)

The many-sided aim of education is stated by Herbart in relation to these six classes of interests as follows :

We cannot expect to see all of these interests unfold equally in every individual; but among a number of pupils we may confidently look for them all. The demand for many-sidedness will accordingly be satisfied the better, the nearer the single individual likewise approaches a state of mental culture in which all these kinds of interest are active with equal energy. When observation, reflection, the sense of beauty, sympathy, public spirit, and religious aspiration have once been awakened, although perhaps only within a small range of objects, the farther extension over a greater number and variety of objects must be left largely to the individual and to opportunity. (**4**: §§ 84, 89.)

Herbart emphasized the humanistic aim of historical studies. — Herbart divided the subject matter of instruction into two main groups, corresponding to the two main classes of interests. Thus he said :

Ideas spring from two main sources, experience [with things] and social intercourse. Knowledge of nature — incomplete and crude — is derived from the former; the latter furnishes the sentiments entertained toward our fellow-man, which, far from being praiseworthy, are on the contrary often very reprehensible. To improve these is the more urgent task, but neither ought we to neglect the knowledge of nature. . . .

Hence we have two main branches of instruction, — the historical and the scientific. The former embraces not only history proper, but language study as well; the latter includes besides natural science, mathematics.

Other reasons aside, the need alone of counteracting selfishness renders it necessary for every school that undertakes the education of the whole man to place human conditions and relations in the foreground of instruction. This humanistic aim should underlie the studies of the historical subjects, and only with reference to this aim may they be allowed to preponderate. (**4**: §§ 36–38.)

Thus we find Herbart placing the two main lines of subject matter, scientific and historical (or social), almost on a par, but assigning an especial importance to the historical studies when human conditions and relations are emphasized in order to secure moral ends, that is, to counteract selfishness. The Pestalozzians on the other hand, as we noted above, emphasized the scientific group of studies.

Method of instruction. — The previous discussion summarized Herbart's formulation of the aim of education in terms of virtue and abiding many-sidedness of interest, and his analysis of subject matter in terms of interests with especial emphasis on the historical studies. It remains to summarize his discussion of the principles of method in teaching. The main topics to be considered under this head are: (1) interests as means; (2) apperception, or adaptation of instruction to the child's past experience and present frame of mind; (3) the methodical treatment of facts; (4) correlation, or the interrelating of subjects.

Interest. *Advocated as a means by Rousseau and Herbart.* — In Chapter IX Rousseau's theory of utilizing the child's present interests to accomplish educational ends was

presented. Herbart maintained the same theory, emphasizing the utilization of present interests as the surest means of developing abiding interests. The discussion of present interests is bound up by Herbart with the discussion of attention. He distinguishes between *spontaneous* attention, which the child gives freely, and *voluntary or forced* attention, which he gives because compelled to, or because he makes a resolution to attend. Herbart's belief in the superiority of spontaneous attention is expressed as follows:

> It is the teacher's business to observe whether the ideas of his pupils arise spontaneously or not. If they do, the pupils are said to be attentive, the lesson has won their interest. If not, attention is, indeed, not always wholly gone. It may, moreover, be enforced for a time before actual fatigue sets in. But doubt arises whether instruction can effect a future interest in the same subjects.
>
> [Voluntary attention] depends on a resolution; the teacher frequently secures this through admonition or threats. Far more desirable and fruitful is spontaneous attention. It is this attention that the art of teaching must seek to induce. Herein lies the kind of interest to be sought by the teacher. (**4**: §§ 72–73.)

Herbart did not believe in sugar coating for interest. — It was noted above that interest, as Herbart conceived it, is not a matter of passive amusement, but an active reaching out for more of an experience. The Herbartian theory of interest is sometimes criticized as involving a pampering of children, a "sugar coating" of unpalatable morsels to get children to swallow them. It is instructive to note that Herbart specifically rejected this type of interest and criticized Basedow's methods of teaching foreign languages by means of games. He said:

> The whole matter has been made worse by the practice of some of the older generation of teachers [Basedow and followers] who, in order to make the prescribed studies more palatable, descended to all kinds of amusements and play, instead of laying stress on abiding and growing interest. A view that regards the end as a necessary evil to be rendered endurable by means of sweetmeats, implies an utter confusion of ideas; and if pupils are not given serious tasks to perform, they will not find out what they are able to do. (**4**: § 99.)

On the other hand, Herbart believed that a subject should be made attractive if possible, and so he continued:

> Harmful and reprehensible as habitual playing with a subject is when it usurps the place of serious and thorough instruction, in cases where a task is not difficult, but seems so to the pupil, it often becomes necessary to start him by a dexterous, cheerful, almost playlike presentation of that which he is to imitate. Superfluous prolixity and clumsiness, through the ennui alone which they produce, cause failure in the easiest things. (**4**: §99.)

Apperception. *Instruction to be adapted to child's experience.* — Herbart said that Pestalozzi's great contribution to education was to proceed to give children experiences instead of assuming that they already had them. Herbart elaborated this relating of instruction to the child's experience, and since his time the principle of apperception has gained general recognition. This principle is based on the psychological fact that the way any one interprets or responds to a given situation will depend on two factors, namely, his past experience and his present frame of mind. In books on psychology this fact is commonly illustrated by the different ideas that would be aroused in the minds of different people by a single word; for example, by the word "bay," spoken to a horse dealer, a boy studying geography, a carpenter, an owner of hounds, etc. These persons would all interpret the word differently, owing to differences in previous experiences. On the other hand, we could assure very similar interpretations of or responses to the word "bay" from all these persons if we put them in a common frame of mind by saying, "Pupils in geography must be able to define lake, river, *bay*," etc.

In teaching, these facts are particularly important because most instruction is given in words, and the important point is to make sure that the pupils get the right interpretation. Rousseau and Pestalozzi discussed this point very definitely; but under the name of "apperception" the principle is generally associated with Herbart's name.

Herbart's statement of Pestalozzian phase of apperception.— The Pestalozzian phase of apperception, that is, providing a fund of real experiences as a basis for understanding verbal instruction, was expressed by Herbart as follows:

> Instruction is to supplement that which has been gained already by experience and by intercourse with others; these foundations must exist when instruction begins. If they are wanting they must be firmly established first. Any deficiency here means a loss to instruction, because the pupils lack the thoughts which they need in order to interpret the words of the teacher. . . .
>
> Ordinarily because their eyes are fixed so closely on the facts to be learned, teachers concern themselves little with the ideas already possessed by the pupils.
>
> In the most favorable case, if instruction is thorough, that is, scientific, a foundation of elementary knowledge is gradually laid sufficiently solid for later years to build on; in other words, out of the elementary knowledge an apperceiving mass is created in the mind of the pupil which will aid him in his future studies. (**4**: §§ 78–79.)

Herbart's description of the process of apperception. — Herbart described the process by which new experiences are interpreted in terms of former experiences as follows:

> Apperception, or assimilation, takes place through the reproduction of previously acquired ideas and their union with the new element, the most energetic apperception, although not necessarily the best, being effected by ideas arising spontaneously. . . . Now this apperceiving activity must be exercised constantly in all instruction. For instruction is given in words only; the ideas constituting their meaning must be supplied by the hearer. But words are not meant to be understood merely; they are intended to elicit interest. And this requires a higher grade and greater facility of apperception. (**4**: §§ 73, 77.)

Emphasized putting children in proper frame of mind. — Herbart also emphasized the other phase of apperception, namely, that the present interpretation of new experiences (usually words in instruction) depends not only on adequate past experience, but also on the present frame of mind of the pupil. The necessity of arousing the correct system of ideas in the child's mind was stated by him in these words:

A rule of vital importance is that, before setting his pupils at work, the teacher should take them into the field of ideas wherein their work is to be done. He can accomplish this at the beginning of a recitation hour by means of a brief outline view of the ground to be covered in the lesson or lecture. (**4**: § 76, note.)

The necessity of establishing the correct *emotional* attitude was suggested in the following statement:

In general, it will always remain a matter of uncertainty whether or how instruction will be received and mentally elaborated. To diminish this uncertainty, if for no other reason, there is need of a constant endeavor to put the pupil in a frame of mind suitable for instruction. (**4**: § 40.)

Forced attention and purposive memorizing may be necessary. — Again it is necessary, in order to show how practical Herbart was, to indicate certain limitations which he placed on his own theories. Some of Herbart's extreme disciples have carried the doctrines of interest and apperception to extremes which he did not sanction. Thus he said:

The fact must not be overlooked, that even the best method cannot secure an adequate degree of apperceiving attention from every pupil; recourse must accordingly be had to the voluntary attention, that is, to the pupil's resolution. But for the necessary measures the teacher must depend, not merely on rewards and punishments, but chiefly on habit and custom. (**4**: § 80.)

By habit and custom Herbart meant that pupils should be trained to feel that the school is the place for regular application to study; that even if the material is not readily understood and requires some "grinding," it must be attacked and mastered. Furthermore, some so-called followers of Herbart have thought that the ends of instruction were secured when interest and apperception were established, and have had no place for purposive memorizing. The following quotation shows how different this is from Herbart's own position:

The voluntary attention is most frequently demanded for memorizing, for which, apart from all else, the presence of interest is not always a favorable condition. . . . Like observation, intentional memorizing presupposes a certain amount of self-control. (**4**: § 81.)

Herbart meant that an active interest in a subject tends to draw a person on to new phases, and thus interferes with the purposive memorizing of that which is already understood.

Herbart's practical appreciation of the necessity of intentional memorizing is further shown by the long discussion which he gives concerning it, in which he makes the following points:

1. "Committing to memory is very necessary; use is made of it in every department of knowledge."
2. Memorizing should not be attempted until the material is understood.
3. Not too much should be assigned at one time.
4. Avoid memorizing incorrect connections.
5. Avoid the suggestion of irksomeness.
6. Not everything learned by heart need be retained permanently. "In many cases it is sufficient for later years if the pupil knows how to look for literary helps, and how to make use of them."
7. Practice is the most efficient method for permanent memorizing: "practice consisting in the constant application of that which is to be retained to that which actually interests pupils." (**4**: §§ 81–82.)

General method. *Pestalozzians formulated method of analytic induction.* — We noted in the treatment of the Pestalozzians that they established certain very influential principles of method; for example, that all instruction should be based on sense perception; that children should have clear ideas from such experience and be given training in expressing them orally; that in teaching any subject you should proceed from the simple to the complex, from the concrete to the abstract, from the empirical to the rational.

An example of the application of these Pestalozzian methods we found in Warren Colburn's "First Lessons in Arithmetic," which was published in 1821. In the preface Colburn elaborated what he called the application of the principles of "analytic induction" to the teaching of arithmetic. This consisted in beginning with an analytical conversation with the children concerning their experiences; then getting a number of examples clearly in mind; then formulating the general

process involved; and finally giving the children practice in applying the general rule or principle reached in this way. Thus we see that Pestalozzi and some of the Pestalozzians had succeeded in formulating very influential general principles of method. It is sometimes asserted that Pestalozzi stopped with sense perceptions and that Herbart showed how these should be elaborated into ideas; that Herbart thus invented apperception. This is a rather absurd belittling of Pestalozzi's achievements, since rational thinking and having clear ideas were two points that he emphasized most. Thus Pestalozzi said:

> When a child's sense impressions have resulted in clear and settled ideas, and when he can express these ideas in speech, he feels the need of examining, separating, and comparing them; this is a pleasure to which life itself invites him, and in which he finds the surest aid for the development of his judgment and power of thinking. (**11**: 379.)

To be sure, as we showed in the chapter on Pestalozzian formalism, Pestalozzian practice was not always consistent with the above principles, but often consisted in the bare memorizing of facts rather than in their methodical treatment.

Herbart said facts need methodical treatment. — Herbart was particularly strong in his criticism of the learning of isolated facts because, as such, they would have little moral influence. He said:

> Instruction in the sense of mere information-giving contains no guarantee whatever that it will materially counteract faults and influence existing groups of ideas that are independent of the imparted information. But it is these ideas that education must reach; for the kind and extent of assistance that instruction may render to conduct depend upon the hold it has upon them.
>
> Facts at least must serve as the material for methodical treatment, otherwise they do not enlarge even the scope of mental activity. They rise in value when they become instinct with life and acquire mobility so as to enrich the imagination. But their ethical effect always remains questionable so long as they do not help to correct or modify the ethical judgment, or desire and action, or both. (**4**: § 35.)

The steps in such a methodical treatment. — The character of the steps to be taken in such a methodical treatment of facts corresponds roughly to the steps in Warren Colburn's method of analytic induction described above. In his "Outlines" Herbart introduced the statement of them as follows:

[1] Some teachers lay great stress on the explication, step by step, of the smaller and the smallest components of the subject, and insist on a similar reproduction on the part of the pupils. [2] Others prefer to teach by conversation, and allow themselves and their pupils great freedom of expression. [3] Others, again, call especially for the leading thoughts, but demand that these be given with accuracy and precision, and in the prescribed order. [4] Others, finally, are not satisfied until their pupils are self-actively exercising their minds in systematic thinking.

Various methods of teaching may thus arise; it is not necessary, however, that one should be habitually employed to the exclusion of the rest. We may ask rather whether each does not contribute its share to many-sided culture. [1] In order that a multitude of facts may be apprehended, explications or analyses are needed to prevent confusion; but since a synthesis is equally essential, [2] the latter process may be started by conversation, [3] continued by lifting into prominence the cardinal thoughts, and [4] completed by the methodical, independent thinking of the pupil: [1] clearness, [2] association, [3] system, [4] method.

On closer inspection we find that instead of being mutually exclusive, these various modes of instruction are requisite, one by one, in the order given above, for every group, small or large, of subjects to be taught. . . .

[1] During the first stage, when the clear apprehension of the individual object or fact is the main thing, the shortest and most familiar words and sentences are the most appropriate. . . .

[2] For association, the best mode of procedure is informal conversation, because it gives the pupil an opportunity to test and to change the accidental union of his thoughts, to multiply the links of connection, and to assimilate, after his own fashion, what he has learned. It enables him, besides, to do at least a part of all of this in any way that happens to be the easiest and most convenient. He will thus escape the inflexibility of thought that results from a purely systematic learning.

[3] System on the other hand, calls for a more connected discourse, and the period of presentation must be separated more sharply from the period of repetition. By exhibiting and emphasizing the leading principles, system impresses upon the minds of pupils the value of organized knowledge; through its greater completeness it enriches their

store of information. But pupils are incapable of appreciating either advantage when the systematic presentation is introduced too early.

[4] Skill in systematic thinking the pupil will obtain through the solution of assigned tasks, his own independent attempts, and their correction. For such will show when he has fully grasped the general principles, and whether he is able to recognize them in and apply them to particulars.

These remarks on the initial analysis and the subsequent gradual uniting of the matter taught, hold true, in general and in detail, of the most diverse objects and branches of instruction. (**4**: §§67–69.)

Do these steps apply to the lesson unit or the subject as a whole? — The above account of the four steps in methodical instruction was presented in Herbart's own words because it took no more space than would be required to restate it, and because it furnishes a better basis for determining Herbart's real meaning. There is one point that is not clear, however, and that is whether these steps were intended to apply to each topical unit or to each subject as a whole. The extreme followers of Herbart have applied them to each topical unit or instruction unit. On the other hand, according to Sallwurk (**12**: 816–817), neither in his theory nor in his practice at Göttingen did Herbart consider these as steps in the teaching of lessons, but rather as steps in the organization of the subject as a whole, and even years might elapse between the first and fourth steps. In the discussion quoted above, Herbart made some comments which seem to substantiate Sallwurk's points. Thus in calling attention to the necessity of avoiding fatigue he said:

. . . In order to have time enough for this, the systematic presentation must in many cases be postponed until long after the first lessons in the elements have begun, and conversely the rudiments of a subject frequently have to be at least touched upon long before connected instruction can be thought of. Many a principle needs to be approached from a great distance. (**4**: §70. See also § 120.)

Correlation. *Organization of subject matter necessary for moral ends.* — In the discussion of method Herbart stated that facts needed thorough methodical treatment in order to

affect the pupil's personal behavior. This is about all there is to his notion of the theory of correlation, except that it involves the building up of associations between subjects instead of merely between principles within the same subject. This relating of subjects is clearly suggested in the following quotation concerning mathematics:

> Mathematical studies, from elementary arithmetic to higher mathematics, are to be linked to the pupil's knowledge of nature, and so to his experience, in order to gain admission into his sphere of thought. Instruction in mathematics, however thorough, fails pedagogically when the ideas generated form an isolated group. They are usually soon forgotten, or, if retained, contribute but little toward personal worth. (**4**: § 39.)

On the other hand, it is important to notice here, as we have done before, that Herbart placed very definite limitations on his theory, saying:

> But it would be an error to argue that one who is being initiated into one subject ought to combine with that subject a second, third or fourth, on the ground that subjects one, two, three and four are essentially interrelated. This conclusion holds for scholars [that is, advanced specialists], who, so far as they are personally concerned, have long passed beyond preliminary pedagogical considerations, and even in their case it applies only to those branches which are intimately connected with their specialties; it has nothing to do with the psychological conditions by which the course of education must be governed. (**4**: § 219.)

These careful statements contrast very strongly with the exaggerated interpretations of correlation made by some of Herbart's followers, which will be discussed later.

This will conclude our discussion of Herbart's own work and theories. We have demonstrated that his connection with Pestalozzi and with the new humanistic movement, and his experience as a tutor, were the important factors in determining his educational theories. We have summarized the latter, in his own words as far as possible, as they relate to the aim of education and its subject matter and methods. It remains to show how these theories were taken up and elaborated (sometimes exaggerated) by his followers.

The Herbartian movement. Historical development in Germany. *Popularity delayed.* — Herbart died in 1841, and his pedagogy did not attain great popularity in Germany until about 1865. Since then his theories have been so influential that the controversial literature relating to them is overwhelming. There were two primary factors in this popularizing; namely, (1) the theoretical publications of Tuiskon Ziller (1817–1883); and (2) the practical development of Herbartian methods at the University of Jena.

Ziller started popular interest in Herbart's theories, 1865. — Ziller was a professor at the University of Leipzig. He published a number of minor works on education, but the appearance in 1865 of his book entitled "Basis of the Doctrine of Instruction as a Moral Force" was practically the foundation of popular interest in Herbart in Germany. This interest led in 1868 to the establishment of a special educational society for the study of Herbart's doctrines. Ziller was president of this society, and it soon was represented by local organizations all over the country.

Practical developments at Jena, 1874. — The pedagogical seminary and practice school at the University of Jena was established in 1874. At first it did not represent the extreme form of Herbartianism which Ziller advocated; but in 1885 it came under the direction of Professor William Rein, who developed the actual practice on the Ziller plan. This school has been particularly influential because of the thorough way in which the teachers who were studying the methods were made to appreciate the actual work done with the children according to the Herbartian principles. Moreover, Rein's course of study for the eight years of the elementary school was worked out as early as 1881 in complete detail, showing exactly what was done. For the first grade alone the course of study fills one hundred ninety-eight pages, and the complete work constitutes two large volumes. The teachers who were studying the methods would go to see a lesson taught,

and then would meet for a thorough discussion of it, threshing out completely all the problems of teaching involved in it.

Thus there have been three main factors in the extreme development of Herbartianism in Germany: (1) the complete and exaggerated theoretical exposition by Ziller; (2) the elaborate printed course of study for the eight grades of the elementary school; (3) the efficient combination of practical demonstration and theoretical justification in the training of teachers at Jena.

Historical development in the United States. *Enthusiasm in the nineties.* — A great wave of enthusiastic interest in Herbartian principles swept over the United States, beginning about 1890. It was due to the influence of a number of Americans who had studied at Jena in the later eighties and returned to America filled with zeal for the Jena system of pedagogy. The geographical center of this interest in the United States was northern Illinois, especially in the normal schools. The following data are a few examples from the movement. Charles De Garmo studied in Germany about 1886, and published "The Essentials of Method" in 1889. Charles McMurry studied at Jena about 1887, and published his "General Method" in 1892. Frank McMurry studied at Jena in 1889, and published with Charles McMurry "The Method of the Recitation" in 1897. These three books have been the most influential in propagating Herbartian methods in the United States as the basis of the training of teachers in normal schools. In addition, the practical organization of the training work and practice teaching at Jena has been copied in many normal schools, sometimes in minute detail.

A national Herbart society was organized in 1892, in imitation of the corresponding German organization, and enrolled many of the leading American educators. Its proceedings for the first three years concerned strictly Herbartian topics, such as correlation, interest, apperception, moral education, etc. This strictly Herbartian character soon began to

disappear, however, and in 1902 the name of the society was changed to the National Society for the Scientific Study of Education.

In general, the Herbartian enthusiasm during the nineties resembled the Pestalozzian enthusiasm of the sixties. The extreme aspects soon disappeared, but each left very abiding and fundamental effects in elementary-school practice. It remains to indicate what the nature of the Herbartian reforms in practice in Germany and in the United States have been.

Practical aspects of the Herbartian movement. Use of historical and literary materials. — In the discussion of Herbart we noted his emphasis on the superior value of a humanistic study of the historical and literary subjects, in contrast to the Pestalozzian emphasis on the scientific subjects. Herbart had in mind the work of secondary schools, particularly the study of the Greek language, literature, and history. Ziller, on the other hand, considered it his chief duty to make the Herbartian pedagogy the basis of the work of the German elementary schools as well. He took Herbart's proposal to use historical and story material to develop moral ideas and sentiments, and made it the basis of most of the work of the elementary school. In order to understand the historical significance of this, we shall glance for a moment at the place of historical and religious material in the German elementary schools.

Religion and history in German Volksschule. — Religion continued to be taught in German elementary schools during the nineteenth century. The instruction comprised all the work ordinarily given in the American Sunday school, including a study of the Bible, the learning of the catechism with emphasis on the special dogmas of individual creeds (Catholic or Lutheran), the learning of hymns, etc.

The teaching of history in German elementary schools passed through several stages during the nineteenth century.

1. At the beginning of the century history had little place in the elementary schools. Some of the popular readers, such as Rochow's "Kinderfreund" (Children's Friend), contained some historical selections, but this was all.

2. The regeneration of Prussia and the consequent arousal of national enthusiasm, coupled with the superior training of teachers due to the Pestalozzian movement, resulted in an increased interest in the teaching of history during the second decade of the century. This patriotic movement led to an emphasis (in theory at least) on knowledge of the native land (*Heimatskunde*), including "home geography" and "home history." These subjects were to be taught by skillful lecturing by the teacher, developing at the same time an outline of the important facts on the blackboard. This kind of instruction found a place in some of the larger city schools, but in most elementary schools the teaching of history was incidental to the reading lessons. The two most prominent history texts, published in 1813, contained merely the "history of kings and battles." By the middle of the century, however, practically all the methods of teaching history which we know to-day had been advocated at length by enthusiastic theorists. These systems included Pestalozzian methods, regressive and progressive methods, biographical and inspirational methods, political versus *kulturgeschichtliche* methods (history of civilization). These theories, however, affected actual elementary-school practice very little.

3. The tendency to expand the curriculum, which paralleled the expanding national life at the beginning of the century, received various checks from 1819 on. This opposition was due to the fears, on the part of the government, of the democratic and rationalistic tendencies which it attributed to the broader elementary school. This reaction became much more serious after 1840. In 1854 regulations were issued to curtail the overeducation ("this sham education strutting about like a peacock," the king had called it). Reading and learning the

catechism and the Bible were ordered to be the chief subjects, and all others subordinated. Consequently history was barely permitted, and its scope narrowed until mere fragments were taught now and then.

4. About 1870 occurred a revival of the conditions of national progress similar to those which marked the second decade. It was the time during which Bismarck developed Prussia and Germany to leadership among European nations. A vigorous development of domestic affairs included improvements in elementary education. Prominent among these improvements was the assigning of an important place in the curriculum to history instead of making it subordinate to reading and geography as it had been before. It was further ordered that political history should be subordinate to the history of the civilization of the German people.

This brief outline of the development of the teaching of religion and history in German elementary schools will help us to appreciate the program of the Ziller-Jena school, in which history was made the most important subject.

The Ziller-Jena course of study in history. — The following sympathetic account by De Garmo describes briefly the use by Ziller of historical and literary materials as the central subjects in instruction:

> Ziller's plan is one of concentration about a core of culture material. This core about which the work of each successive grade is to be concentrated is to be composed of studies that have the greatest moral content, or practical value in bringing about the moral revelation of the world in the mind of the child. They constitute the material that serves best to cultivate ideals and dispositions. . . . History and literature naturally constitute the core of concentration, the one narrating the actual progress of the race, the other picturing ethical conflict in imaginative forms. . . .
>
> Taking advantage of the fact that Biblical history is everywhere taught in the German schools, Ziller elaborated a double historical course for them, the one Jewish (sacred), the other German. His only serious attempt to utilize literature proper as a factor of this course, is found in the early years where he selects twelve of Grimm's fairy tales for the first

grade, and "Robinson Crusoe" for the second. The followers of Ziller still adhere somewhat rigidly to his selections. Later the Niebelungen Lieder and some of the Thüringer Sagen [legends] are used, but after this not much attention is paid to literature as such. In the double historical series effort is made to adjust the work for each year to the corresponding epochs in Jewish and German history. The following is the order of topics:

School year	*Sacred history*	*German history*
1st	Grimm's Fairy Tales	
2d	Robinson Crusoe	
3d	Patriarchs and Moses	Legends of Thuringia
4th	Judges and Kings	Niebelungen Tales
5th, 6th	Life of Christ	Charlemagne, etc. Middle Ages
7th	Apostle Paul	Reformation
8th	Luther. Catechism	Frederick the Great. Napoleonic Wars, etc. (5: 118.)

History of the educational use of "Robinson Crusoe." — The use of fairy tales and legends was not original with Ziller, but the Jena program represents perhaps the most effective use of them in actual practice. The use of "Robinson Crusoe" has an interesting history. Rousseau said that "Robinson Crusoe" was the only book fit for children to study, and elaborated a method for using it as the basis of industrial and scientific studies. These suggestions influenced Heinrich Campe (1746–1818), one of the intimate followers of Basedow, to prepare special literature for the edification of children. The best known of these books is a revised translation of "Robinson Crusoe." Herbart in his "Science of Education" (1806), in discussing the use of stories for moral instruction, said, "The Campe Children's Library alone can supply many valuable contributions for a future choice selection." (7: 22.) This "Library" began to appear in 1779 and contained fables, moral tales, stories of ancient and modern times, and accounts of foreign countries and peoples. Campe is known as the creator of this type of children's literature in Germany.

In the Jena course of study fourteen pages are devoted to a history of the popularity of "Robinson" and its educational value. The educational discussion is simply an elaboration of the points made by Rousseau (see above, p. 202). The following sentence expresses its general enthusiasm:

> Without doubt, our Robinson is a classical book. But it is not merely the classical book of childhood, but one of the few stories that casts its spell over the old as well as the young . . . with the Bible it is apparently the most widely read of the whole world's literature.

History in American elementary schools. *Seldom studied in first quarter of the nineteenth century.* — In the United States, until late in the nineteenth century, the common practice was to teach history only in the last two grades of the elementary-school and to limit it to the study of one book on American history. I am not acquainted with any thorough account of the development of this practice. The following account is based on a brief study of the period to 1860, made by Mr. C. A. Jaquith (**15**), and on a cursory examination of other material.

Concerning the condition of history in the elementary schools about the time of the American Revolution, Noah Webster said:

> No history was read, as far as my knowledge extends, for there was no abridged history of the United States. . . . In some of the early editions [of the third part of my Institute published in 1785], I introduced short notices of the geography and history of the United States, and these led to more enlarged descriptions of the country. In 1788 at the request of Dr. Morse, I wrote an account of the transactions in the United States after the Revolution; which account fills nearly twenty pages, in the first volume of his octavo editions [see above, p. 85.]

This suggests the form in which American history appeared in the schools when introduced, namely, as a part of the readers or geographies. In the descriptions of individual states in Morse's large geography, sometimes half of a description was devoted to the history of the state. For the most part,

American history was taught only in this incidental way during the first quarter of the nineteenth century, and seldom occurred as a separate study in elementary schools.

History secured a separate place in many schools by 1860. — During the second quarter of the century, however, American history secured a separate place in many schools. There are several lines of evidence to indicate this fact. In the first place a great many history textbooks were published. Many of those issued before 1863 are listed in Barnard's *American Journal of Education.* (**16.**) Of these, one United States history and three histories of New England were published before 1821. Eleven United States histories and three state histories were published between 1821 and 1831. Of these books, "The History of the United States" by C. S. Goodrich, published in 1822, was the most popular. Samuel Goodrich (Peter Parley), a brother of C. S. Goodrich, wrote many little histories, which were popular reading books for children.

Examples of the introduction of American history. — The publication of these texts paralleled the development of a sentiment in favor of instruction in American history in the elementary schools. Thus in 1828 the School Commission of Vermont recommended certain history texts for use in the schools. In 1827 a Massachusetts law required towns of fifty families to employ a teacher of "reading, writing, arithmetic, geography, English grammar and good behavior"; but every town of five hundred families had to provide a master who could teach, in addition to the above branches, United States history, bookkeeping (single entry), geometry, surveying, and algebra. In Michigan, in 1839, Superintendent Pierce said in his report, that history was a subject that should, in his judgment, be added to the traditional branches. In Ohio in the forties and fifties some cities taught history and some did not. In 1865 history was added by law to the Indiana curriculum.

Value of study of history considered doubtful. — During this period (that is, previous to 1860) the question was occasionally debated whether history deserved a place in the schools. Moreover, there is considerable evidence to indicate that history was not taught in many parts of the country in the first half of the century, and that where it was taught it was not understood by the children. Thus the Annual Visiting Committee in Boston, in 1846, found that the children could recite the facts of history very well, but that they often did not understand them. For example, only seventy-five out of four hundred and forty-three children knew the meaning of "taxation without representation," and scarcely any knew what the "impressment of seamen" meant.

American history studied in most grammar schools by 1880. Patriotic purpose. — The tendency to introduce the study of United States history into the grades received additional impetus after the Civil War, and Professor Bourne (**17**) states that the practice of teaching it in the seventh and eighth grades had become quite general by 1880. Practically no other than American history was studied however; that is, ancient and European history were omitted. This restriction to American history was related to the dominant purpose in the instruction in history, namely, the development of patriotism and a knowledge of and enthusiasm for the native land. This tendency to emphasize American achievements was evident in the first historical material prepared by Noah Webster, and continued to be the dominant factor in history teaching in elementary schools down to the end of the nineteenth century. This patriotic purpose was not peculiar to America, however, for it was prominent also in the teaching of history in the German elementary schools (Volksschulen), which is described above.

Broader conception of history teaching developed after 1890. — Toward the end of the nineteenth century a much broader conception of the scope of the teaching of history in

elementary schools became current. The following elements were characteristic of this broader conception: (1) the introduction of historical material (without any emphasis on chronology) at a much earlier stage in the school course, sometimes even as low as the third grade; (2) the selection of such material from the whole range of history — Greek, Roman, German, English, American; (3) the use of biography and story in the lower grades as the vehicle for presenting this material; (4) an emphasis on the European background of American history in the upper grades and the comparison of American historical events with other similar events; (5) a study of all the social life of peoples instead of restricting the study to wars and political events.

Reports of important committees popularized broader point of view. — Many factors were influential in bringing about this change in the conception of the purpose of history teaching from that of developing national patriotism to that of developing a broader appreciation of all social life, both past and present. It is not possible to present here an account of these influential factors, but it will be worth while to notice certain events in the development of this broader conception of history teaching. In the first place the recommendations of important committees in the last decade of the nineteenth century are significant. The Committee of Fifteen on Elementary Education, from the National Education Association, submitted in 1895 a report which represents fairly well the general conservative tendencies in the elementary schools, and, as Professor Bourne says, it did not go beyond the common practice of teaching history for patriotic purposes. Contrasted with this report we have the report of the history conference of the Committee of Ten on Secondary Schools, from the National Educational Association (the conference met in 1892); the report of the Committee of Seven of the American Historical Association (1899); and the report of the New England History Teachers' Association (1899). All these

reports took the broader point of view described above. For example, the last of these reports recommended that the teaching of history should begin in the second school year and should include "the elements of Grecian, Roman, and Norse mythology, stories and biographies from Hebrew, Grecian, Roman, European, English, and American history — chiefly told or read by the teacher."

Herbert Spencer and the Herbartians emphasize social life in history study. — Two other examples of factors in the development of the broader point of view in the teaching of elementary history may be cited. The first is the contention by Herbert Spencer in his famous essay entitled "What Knowledge is most Worth," to the effect that history should be studied primarily as descriptive sociology instead of being a list of wars, kings, political events, etc. This essay, to which we had occasion to refer in Chapter XV in connection with the development of the teaching of elementary science, was first published in 1859. It was widely read, and it would be interesting to determine how large a factor it was in bringing about the broader conception which we have been discussing.

The second example is the influence of the Herbartians who have maintained vigorously the broader aim in history teaching. Their influence is often referred to, but it has never been definitely determined as far as I know. A good statement of the American Herbartian point of view is the following from C. A. McMurry's "Special Method in the Teaching of History":

> History should help children to become thoroughly and intelligently interested in individuals and in the concerns of society . . . [and] to reproduce in themselves the experiences of suitable educative epochs in history. [History should] socialize and humanize the children by an intelligent and sympathetic treatment of the moral relations of men. History is thus preëminently a moral study and a moral practice.

Literature in American elementary schools. — The development of the use of literature in American elementary

schools may be considered under three heads, as follows: (1) the development of literature suitable for children without reference to its use in the schools; (2) the development of the ordinary reading books used in the schools, and the character of the selections contained in them; (3) the recent tendency to use whole literary classics as the basis of literary study in place of the ordinary reading books.

The development of books suitable for children. — The history of the preparation of English books suitable for children is a fascinating subject and has been thoroughly discussed in a number of interesting books by Moses (**18**), Field (**19**), Godfrey (**20**), and others. Space does not permit of a satisfactory discussion of this topic here, but the books referred to in the previous sentence might be read to advantage. Especial attention should be paid to (1) the preparation of books under the religious influences, as in the case of the Puritans and of the Sunday-school books of the early part of the nineteenth century; (2) the preparation of fairy stories especially intended for children, by Perrault (1628–1703) in France (probably the originator of "Mother Goose") and by Newberry and Oliver Goldsmith (1728–1774) in England; (3) the influence of Rousseau in England and the work of Maria Edgeworth (1767–1849); (4) the adoption by children of literature originally intended for adults, such as Bunyan's "Pilgrim's Progress," Swift's "Gulliver's Travels" (1726), and Defoe's "Robinson Crusoe" (1719).

The selection of material for school reading books. — The characteristics of the early reading texts that were prepared under the religious influences which dominated elementary education down to the beginning of the nineteenth century were described in Chapter IV. "The New England Primer" is one of the best examples of this class of books. In German the name for primer is *Fibel*, which means a small Bible. The first book to compete with the religious manuals as reading books in Germany was Rochow's "Kinderfreund" (Children's

Friend, 1776), which was described on page 217 in connection with the secularizing of German schools. This book contained short instructional stories and discussions relating to agriculture, domestic affairs, and good citizenship.

Webster's "Third Part" (1785), the first American secular reader. — According to Reeder, "The first reading book corresponding to Rochow's 'Kinderfreund' in American schools was Webster's 'Third Part' published in 1785." (**21**: 19.) The complete title of Webster's reader was "An American Selection of Lessons in Reading and Speaking, calculated to improve the mind and refine the taste of youth, and also to instruct them in Geography, History and Politics of the United States. To which are prefixed rules in Elocution, and directions for expressing the principal passions of the mind. Being the third part of A Grammatical Institute of the English Language by Noah Webster, Jr., Esquire." Webster's speller, which was described in Chapter IV, was the "First Part" of this "Grammatical Institute."

Other readers. — Caleb Bingham was the second author of such American secular readers, and his "American Preceptor" (1794) and "Columbian Orator" (1797) were as popular as Webster's reader. Both of these authors appealed primarily to the patriotic sentiment which followed the Revolutionary War, and emphasized the element of oratory as a prominent factor in the social life of democratic representative governments. There was little attention to general secular literature. In the first quarter of the nineteenth century the three-book series of readers by Lindley Murray became very popular. In this series some attention was given to general literature, but the oratorical idea was still prominent. Moreover, much material intended for direct moral instruction was included, such as lessons on gratitude, gentleness, "a suspicious temper," "mortification of vice," "the immortality of the soul," etc., together with Bible stories. Following Murray, there developed a tendency to grade the readers

according to children's abilities. The most important of these graded series was that of John Pierpont, which was published in four books between 1820 and 1830, and was very popular until after the middle of the century. In this series literary selections were made from the best English and American writers. Many other series of readers were issued, but they possessed no striking novel characteristics. As Reeder says:

> In examining the contents of these various series, one encounters a dreary sameness, notwithstanding the effort of each compiler to differentiate his series, and to give it distinct commercial and academic or commercial points. (**21**: 51.)

Sometimes, especially in the early part of the century, the readers emphasized geographical, historical, and practical information, but this tendency declined somewhat as these subjects came to be represented in the schools by special textbooks. At the present time such "informational readers" are still used, but they are commonly known as supplementary geography and history readers, and are more directly related to these subjects than to reading and literature.

Reading considered primarily as oral reading. Silent reading neglected. — It seems a curious fact, but down to the end of the nineteenth century reading in the elementary schools was considered primarily as a matter of oral expression. This oratorical point of view was suggested in the names of many of the earlier readers, such as Bingham's "Columbian Orator"; and most of the books placed especial emphasis upon it by claiming some especial virtue in training in distinct articulation, elocution, etc. Silent reading and an acquaintance with a wide range of literature and the development of habits of wide general reading were all sacrificed (and still are in many places) to training in *oral* reading.

Reading of many whole literary classics in elementary schools since 1890. — Since about 1890 there has developed a strong tendency to depart from the practice of confining reading in the schools to the oral expression of what is seen

on the printed page. A rapid reading of a wide range of literature is becoming popular. A few of the factors which have been influential in developing this practice will be discussed.

President Eliot's account of waste of time in elementary schools. — About 1890 President C. W. Eliot (1834——) of Harvard University, one of the most influential personal factors in the development of higher education in the United States, conducted a vigorous campaign in favor of an enrichment of the elementary-school curriculum. One of the most effective of his efforts in this direction was his essay entitled "An Average Massachusetts Grammar School," published in 1890. In this essay he reported a quantitative study of the amount of intellectual material that children were made acquainted with in the last six years of the elementary school. In this connection he said:

> I turned next to an examination of the quantity of work done in the grammar school under consideration — and, first, of the amount of reading. The amount of time given to reading and the study of the English language through the spelling book and the little grammar which are used in that school, and through a variety of other aids to the learning of English, is thirty-seven per cent of all school time during six years. But what is the amount of reading in this time? I procured two careful estimates of the time it would take a graduate of a high school to read aloud consecutively all the books which are read in this school during six years, including the history, the reading lessons in geography, and the book on manners. The estimates were made by two persons reading aloud at a moderate rate, and reading everything that the children in most of the rooms of that school have been supposed to read during their entire course of six years. The time occupied in doing this reading was forty-six hours. These children had, therefore, been more than two solid years of school time in going through what an ordinary high-school graduate can read aloud in forty-six hours. . . . How small an acquaintance adults would make with English literature if their reading during six years were limited in amount [to this extent]. . . . This test . . . is, of course, a very rough and inadequate one, . . . but it gives some clue to the very limited acquaintance with literature which the children get in the entire course of six years. (**22**: 185.)

Eliot and Scudder recommended literature in place of readers. — Pursuing the matter further, President Eliot made the following radical suggestions concerning the use of school readers:

> It would be for the advancement of the whole public school system if every reader were hereafter to be absolutely excluded from the school. I object to them because they are not real literature; they are but mere scraps of literature, even when the single lessons or materials of which they are composed are taken from literature. But there are a great many readers that seem to have been composed especially for the use of children. They are not made up of selections from recognized literature, and as a rule this class is simply ineffable trash. They are entirely unfit material to use in the training of our children. The object of reading with children is to convey to them the ideals of the human race; our readers do not do that and are thoroughly unfitted to do it. I believe that we should substitute in all our schools real literature for readers. (**23**: 145.)

President Eliot may have been independent to a considerable extent in making this suggestion, but a number of other expressions of the same idea were published about the same time. One of the most widely read of these was a book on "Literature in the Schools" by H. E. Scudder (1837–1902), published in 1888. Scudder argued at great length for the study of complete English classics in elementary schools and said:

> The continuous reading of a classic is in itself a liberal education; the fragmentary reading of commonplace lessons in minor morals, such as make up most of our reading books, is a pitiful waste of growing mental powers.

Committee of Fifteen (1895) represented both points of view. — The practice advocated by Eliot and Scudder had not been adopted very generally by 1895. This is shown by the report of the Committee of Fifteen on elementary education from the National Educational Association made in that year. In the section on English the committee recommended the ordinary method of using readers, but William Maxwell, then superintendent of the schools of Brooklyn, N.Y., took

exception in a minority report to this recommendation, and said, "For the study of literature complete works are to be preferred to the selections found in the readers" (p. 112).

American Herbartians have helped the movement for whole classics. — The American Herbartians are commonly mentioned as influential in popularizing this practice of using complete literary classics in elementary schools. Just as in the case of using history materials in the lower grades, however, it is difficult to determine how large a factor their influence has been. The publication of C. A. McMurry's "Special Method in the Reading of English Classics" (1903) is perhaps the most definite contribution to the movement by an Herbartian. The following quotation from this book (p. 41) will serve to make the general practice more concrete:

> With the increasing tendency to consider the literary quality and fitness of the reading matter used in school, longer poems and stories like "Snow Bound," "Rip Van Winkle," "Hiawatha," "Aladdin," "The Courtship of Miles Standish," "The Great Stone Face," and even "Lady of the Lake" and "Julius Caesar" are read and studied as complete wholes. Many of the books now used as reading books are not collections of short selections and extracts, as formerly, but editions of single poems or kindred groups, like "Sohrab and Rustum" or the "Arabian Nights" or "Gulliver's Travels" or a collection of complete stories or poems by a single author, as Hawthorne's "Stories of the White Hills" or Lowell's "Vision of Sir Launfal" and other poems. Even the regular series of readers are often made up largely of longer poems and prose masterpieces.

In the lower grades nursery rimes, "Mother Goose," and other literary classics of childhood are used. The wide acquaintance with general literature which is secured by such a course of study as McMurry described contrasts very strongly with the meager acquaintance to which President Eliot called attention in 1890.

Correlation. *Ziller advocated concentration around a few centers.* — We noted above that while Herbart advocated a certain amount of correlation, for example, mathematics being

linked with nature studies, he opposed a very elaborate interrelating of subjects. Ziller, on the other hand, went to the extreme of maintaining that all the subjects of the elementary school should center in a series of central topics. As indicated in the quotation on page 407, this central series should be historical and literary; for example, in the second grade "Robinson Crusoe" would be the point of departure for reading, writing, arithmetic, and moral instruction. In the seventh grade, where the Reformation is the historical center with which everything else is connected, the course of study includes the invention of printing and gunpowder; the literature of the Reformation, with Luther's Bible; the astronomical geography of the period — Copernicus, Galileo, Newton, and others; and nature study connected with the work of the same scientists. The songs taught are related to the period of the Reformation; the arithmetic is based on the mathematical geography and the nature study, even on the history by involving computations concerning an army corps in the Thirty Years' War (1618–1648); and drawing is based on the industrial art which prevailed in the time of the Reformation.

Correlation in America. *Moderate interrelating of subjects common.* — In America correlation was vigorously discussed during the nineties and is now an important factor in the organization of courses of study in many places. Perhaps the most important influence in bringing this about was the *Report of the Committee of Fifteen*, of the National Educational Association, on elementary education, published in 1895. For the most part, correlation in America takes the form of a moderate interrelating of subjects such as Herbart proposed. The most helpful of such correlations that are becoming common are those (1) between geography and history, (2) between arithmetic and geography (including a study of industries), (3) between arithmetic and constructive work (including household arts).

Incidental teaching of formal subjects in lower grades. — Concentration around a few central topics has not been generally adopted in America except in the lower grades. Here it is not uncommon to center nearly all the work in a study of fairy stories, myths, and legends, and especially of "Robinson Crusoe." Instead of calling this concentration, however, it is ordinarily spoken of as teaching the formal subjects (reading, writing, and arithmetic) incidentally. There is considerable debate concerning the value of this practice.

Colonel Parker concentrated around scientific subjects, 1894. — The best known attempt at thorough concentration in America was set forth in Colonel F. W. Parker's "Talks on Pedagogics, an Outline of the Theory of Concentration" (1894). This was not a mere theoretical discussion, but represented what had been worked out in practice to a considerable degree in the normal school of Cook County, Illinois, of which Colonel Parker was principal. A modification of this plan was continued in practice to a certain extent in the elementary school of The University of Chicago as late as 1909. Colonel Parker's enthusiasm for his plan was expressed in his preface as follows:

> The initial steps in this work have been taken, and enough has been done to prove that the direction is right. The doctrine of concentration in itself is a science of education that will absorb the attention of thoughtful teachers for centuries; it contains an ideal that is infinite in its possibilities.

Among the sources of inspiration which Colonel Parker acknowledged were the work of Herbart and his followers, and the Froebelian doctrine of unity. Parker's scheme differed from that of Ziller in that it made the sciences, especially geography, the central subjects of study. These subjects were given a large place in the programs of the lowest grades, which was, and still is, a very uncommon practice. The formal subjects were to be taught "incidentally" to these content subjects.

Culture-epochs theory to determine sequence of subject matter. — One of the theories which Ziller and his followers have championed most vigorously is that the material in any study, but particularly in the culture studies, should be arranged in the order in which it has been developed historically. This order is supposed to correspond to the order in which children develop capacities for understanding and appreciating the subject matter. A clear example of this appears in Ziller's outline for the study of Biblical material, beginning with Moses and coming on down through the life of Christ and Paul to Luther and the catechism. This is called the culture-epochs theory, because the development of civilization or culture with which the children are to be made familiar may be divided roughly into epochs having characteristic differences. The epochs chosen vary with the point of view taken in making the division. One of the most common divisions is according to industrial stages; namely, (1) the hunting and fishing stage; (2) the nomadic, grazing, or domestic-animal stage; (3) the agricultural stage; (4) the stage of domestic labor, handicrafts, and town economy; (5) the factory-system stage, or the period of national economy. Similar epochs are supposed to appear in similar order in the development of the child. This is a special application of the biological theory of recapitulation; namely, that the individual in his physical development from the embryo to the adult recapitulates or passes through the same stages of development as occurred in the evolution of the species.

Spencer and Hall advocates of recapitulation. — Apart from the Herbartians, the most prominent champions of this theory among English writers are Herbert Spencer and G. Stanley Hall (1846——). Thus Spencer says in his chapter on Intellectual Education (*c.* 1860): "The education of the child must accord both in mode and arrangement with the education of mankind as considered historically; or, in other words, the genesis of knowledge in the individual must

follow the same course as the genesis of knowledge in the race." The most notable expressions of the doctrine from G. Stanley Hall are found in the publications of his students. One of these, entitled "Hydro-Psychoses" (mental states related to water), is devoted to showing how human beings assume certain characteristic attitudes toward water because their ancestors were fishes. Another entitled "Dendro-Psychoses" (mental states related to trees) explains human attitudes toward trees, climbing, falling, etc., on the basis of our ancestors having been monkeys. (**24**.)

Culture-epochs theory is seldom used consistently. — While this theory has been very popular in discussions, and thousands of uncritical educators accept it without question, it has seldom been used on a large scale as the real basis of a course of study. For example, the real reason why people arrange historical material chronologically is not because the child recapitulates the race, but because sequence is a fundamental element in appreciating historical significance. The reason why primitive industrial conditions are considered to be better adapted to the understanding of little children is not because the child is recapitulating the development of primitive man, but because these conditions are simpler; the wants, the conditions of production and exchange, the tools and machines — all are less complicated than those of an advanced civilization. Even adults find it difficult to analyze the complicated social relations of an advanced civilization, and they would be assisted in appreciating such a situation by beginning with a study of a smaller, more local, less complicated social situation, and tracing the gradual development of social institutions. But obviously the advantage in doing this does not depend on the fact that the adults are recapitulating the stages they are studying.

That the theory is largely "academic" (that is, a nice theory for discussion) and is seldom made a real criterion for selecting or arranging subject matter is shown by the fact

that it is never carried out consistently. Take the example of the religious development of a Christian child, according to Ziller, as described above. The child is not treated as if he were a Jewish child in the early parts of Ziller's course, as he should be if he were recapitulating the pre-Christian epoch which is being studied. Instead, he celebrates Christmas and practices other Christian observances. Nor is he given training in animal sacrifices and other primitive religious rites. To take another example, I have never seen it proposed that European children should be required to use Roman numerals in mastering the fundamental operations in arithmetic before they use the Arabic or Hindu notation. Yet this is certainly the order in which their ancestral race mastered them.

Criticisms of the culture-epochs theory, biological, pedagogical, anthropological. — Although the culture-epochs phase of the recapitulation theory is seldom made the real basis of the selection and arrangement of subject matter, it may be worth while to refer briefly to some of the criticisms which have been offered against it. The biological limitations are well set forth by Professor A. M. Marshall in his volume of "Biological Lectures and Addresses," in a chapter entitled The Recapitulation Theory (1894). The pedagogical limitations are thoroughly discussed by Dewey and others in the second yearbook of the National Herbart Society (1896), which contains the most thorough presentation of the subject in English.

The most fundamental basis of criticism of the value of the theory is furnished by the anthropologists, who tell us that we know practically nothing about the minds of the primitive white men; hence their development, of which we are ignorant, cannot serve as a guide by which to determine the education of children. Furthermore, as far back as we have definite historical information, the inherited qualities of the minds of the primitive white men were not different from the inherited qualities of the minds of people of the same type

or race to-day. The inherited qualities of the minds of the Greek children of to-day are not like those of the adult Socrates or Homer, but they are like those of the Greek children of the same blood in the fourth or seventh century before Christ. The minds of the German children of to-day are not different in their fundamental inherited traits from the minds of the average German children of the time of Charlemagne; yet these Germans were barbarians. The stages of social development which the Germans have passed through, from barbarism to present-day culture, have no corresponding stages in the inherited biological development of German children of to-day. Biologists and anthropologists will agree that it is absurd to say that because of the inherited biological characteristics of their nervous systems the German children of eleven are in the stage of barbarism of Charlemagne, the children of thirteen in the stage of the Lutheran Reformation, and the children of fourteen in the stage of the nationalism of Frederick the Great. Yet these are the stages indicated in Ziller's course of study.

The five formal steps. *Applied to instruction units by Ziller.* — Ziller took the four steps (clearness, association, system, method) which Herbart had outlined as necessary in the methodical treatment of every subject and made them the basis of the organization of material for topical units — units of instruction or lessons. Ziller's followers have modified the original steps slightly, increasing them to five and changing the names. In America, under the influence of De Garmo and the McMurrys, the steps are commonly known as follows:

1. *Preparation.* — Stating the aim of the lesson, recalling related facts, and taking other precautions to put the children in the right frame of mind for the new material.

2. *Presentation.* — Securing new data or experiences from reading, lecturing, conversing, experimenting, questioning, etc.

3. *Association, comparison, and abstraction.* — Discussing and interpreting the new material, relating it to previous

experiences, comparing, classifying, arranging, noting common characteristics, perhaps reaching a vague feeling of the general principles involved.

4. *Generalization.* — Formulating a statement of the general principles which have been worked up to in step 3.

5. *Application.* — Interpreting other situations or experiences (new or old) in terms of the generalization reached, working particular problems, judging special cases of all sorts.

Criticism of formal steps. — The general use of the Herbartian method books in the United States has made these steps so familiar that it is not necessary to explain them further. They constitute the basis of the practical training of teachers in many of the normal schools. In Germany there is a large body of controversial and critical literature relating to them. In the United States there has not been nearly so much criticism. The criticisms which are advanced vary, depending on the point of view from which the steps are considered. They may be thought of in at least three different ways as follows:

1. *As an artificial formula to assist young teachers in planning their lessons.* — From this point of view it is generally agreed that the steps serve the same useful purpose that any similar formula would; namely, they enable the young teacher to plan in advance, quite completely, according to definite standards, just what he will try to work out in teaching a given unit of instruction. As a rule, teachers outside of the normal schools do not use these steps very definitely. The danger in using them for guidance in the normal schools is that the work will become too wooden, too stilted; the steps will come to be looked upon as an end instead of a means for assisting inexperienced teachers.

2. *As paralleling the steps of scientific method.* — The second way of regarding the five formal steps considers them as corresponding to the method of modern, inductive, scientific research. From this point of view they are criticized as

being essentially defective. As shown on pages 114–117, the essential element in modern scientific method is the inductive verification of hypotheses which are formulated in the endeavor to find the solutions to problems. Neither the construction of hypotheses nor their verification is mentioned in the five formal steps. They correspond to the Baconian method of pseudo-induction rather than to the method of Newton, Galileo, Harvey, and other real scientists (see above, p. 119).

3. *As natural steps in reflective thought.* — In the third place, the five formal steps may be considered as corresponding to the natural order of reflective thinking. This point of view is really the same as the one described in the previous paragraph, since the methods of science and of reflective thought are essentially the same; but inasmuch as the methods of science are unknown to most persons, whereas any one may easily become familiar with his own methods of reflective thought, it is worth while to discuss the two points of view separately. The formal steps have been criticized, from the point of view of reflective thought, by Professor John Dewey in his recent book entitled "How we Think." Dewey emphasizes the fact that reflective thought, like scientific investigation, begins with some problem or difficulty to be solved, for example, with such problems as "How to get the funds to go to school," "How to relieve social distress," etc. Considering the Herbartian steps from this point of view, he says:

> We are struck by one difference: the Herbartian method makes no reference to a difficulty, a discrepancy requiring explanation, as the origin and stimulus of the whole process. As a consequence, it often seems as if the Herbartian method deals with thought simply as an incident in the process of acquiring information, instead of treating the latter as an incident in the process of developing thought. (**14**: 204.)

Dewey also makes the criticism that the steps in reflective thought are not separated as they are in the formal steps, but that there is a constant working back and forth between

individual cases, generalizations, verifications, and applications. That is, a person begins to generalize from the first one or two cases thought of, and then revises this generalization as new cases come to mind. Likewise, he may be making applications right along instead of waiting until the final conclusion is reached before making any.

Moreover, if the steps are to be considered as steps in reflective thought, the choice of a name for the second, namely, "presentation," is especially unfortunate. In reflective thought, either in everyday life or in scientific work, the data or facts necessary to solve the problem in hand are not "presented" to the individual, but he ordinarily is required to search for them. Hence some term which suggests this fact would be better than "presentation."

Finally, in view of these criticisms, it would probably be better if the Herbartians, instead of trying laboriously to maintain that the formal steps correspond to reflective thought or scientific inquiry, would admit that they are a somewhat artificial device to assist in the somewhat artificial processes of studying, which must prevail in a school where there are many things to be studied and a short time to study them. From this point of view the Herbartian method may rightly claim the virtue of emphasizing the thorough appreciation by the pupil of large significant aspects of knowledge which he has helped to organize and apply in the lessons.

Few modern practices not Pestalozzian or Herbartian. — This will conclude our discussion of the Herbartian movement, of which various phases are so prominent in present-day practices. Some of these practices, as we have noted, go beyond what Herbart himself would have advocated; for example, the practices in connection with the theory of concentration and the culture-epochs theory, and probably the application of the formal steps to instructional or lesson units.

When we have selected from recent educational practices those that are Pestalozzian and those that are Herbartian

either in origin or character, there remain very few aspects of the modern elementary school to be discussed. Some of these remaining aspects, however, are very important, especially manual training and social training as represented in the kindergarten and, to a certain extent, in the other grades of the elementary school. To the history of these practices we shall turn in the next chapter.

BIBLIOGRAPHICAL NOTES

Concerning Herbart's relation to Pestalozzi. — 1. ECKOFF, W. J. (translator). *Pestalozzi's Idea of an ABC of Sense-Perception, and Minor Pedagogical Works of Herbart.* (D. Appleton and Company, 1896.) Contains Herbart's own account of Pestalozzi's work.

Concerning new humanism. — 2. PAULSEN, F. *German Education.* (Charles Scribner's Sons, 1908.) Pp. 161–165, 201, 208, 290.

3. RUSSELL, JAMES E. *German Higher Schools.* (Longmans, Green, & Co., 1901, revised edition.) Pp. 69–75.

Systematic discussion of Herbart's theory. — 4. HERBART, J. F. *Outlines of Educational Doctrine.* (The Macmillan Company, 1901.) As the mature formulation of his practical pedagogy this is the best source for study. Herbart's psychologies and his *Science of Education* are comparatively unprofitable reading.

Concerning the Herbartian movement. — 5. DE GARMO, C. *Herbart and the Herbartians.* (Charles Scribner's Sons, 1895.) This well-known volume traces the development after Herbart in Germany and America.

6. SCHERER, H. *Geschichtsunterricht.* (Wunderlich, Leipzig, 1908.) A brief history of the teaching of history in Germany.

Much of the Hebartian literature in English is of little value because it is lacking in historical perspective. Some of it consists of interpretations of Herbart's practical pedagogy in terms of his useless psychology, and is biased by a desire to show that Herbart provides a thoroughly satisfactory system of pedagogy. Some of the German histories of education treat Herbart as a part of the new humanistic movement, but this is seldom done in English.

Other works referred to in the chapter. — 7. HERBART, J. F. *Science of Education and Æsthetic Revelation of the World.* (D. C. Heath & Co., 1895.)

8. DEWEY, J. *Interest as related to Will.* (The University of Chicago Press, 1895.)

9. DAVIDSON, J. *New Interpretation of Herbart's Psychology.* (Blackwood, London, 1906.)

10. BARNARD, H. *Kindergarten and Child Culture.* (C. W. Bardeen, Syracuse, 1890.)

11. GUIMPS, ROGER DE. *Pestalozzi, his Aim and Work.* (D. Appleton and Company, 1890.)

12. SCHMID, K. A. *Geschichte der Erziehung.* Vol. IV, Part II.

13. MARSHALL, A. M. *Biological Lectures and Addresses.* (1894.)

14. DEWEY, J. *How we think.* (D. C. Heath & Co., 1910.)

15. JAQUITH, C. A. *The Development of History Teaching in the United States up to the Civil War.* (Essay for master's degree, The University of Chicago Library, 1911, unpublished.)

16. BARNARD, H. *American Journal of Education*, 1863–1865. Vol. XIII, pp. 209–222, 401–408; Vol. XIV, pp. 626–635, 753–777; Vol. XV, pp. 540–575. For a list of American textbooks.

17. BOURNE, H. E. *The Teaching of History and Civics.* (Longmans, Green, & Co., 1903.)

18. MOSES, M. J. *Children's Books and Reading.* (Mitchell Kennerley, N. Y., 1907.)

19. FIELD, MRS. E. M. *The Child and his Book.* (Gardner & Darton, London, 1891.)

20. GODFREY, ELIZABETH. *English Children in the Olden Time.* (Methuen, 1907.)

21. REEDER, R. R. *Historical Development of School Readers and Methods of Reading.* (The Macmillan Company, 1900.)

22. ELIOT, C. W. *Educational Reform.* (The Century Co., 1898.)

23. *Educational Review*, July, 1891. Vol. II.

24. Dendro-Psychoses, *American Journal of Psychology*, July, 1898. Vol. IX, pp. 449–506. Hydro-Psychoses, *American Journal of Psychology*, January, 1899. Vol. X, pp. 171–229.

CHAPTER XVIII

EDUCATION THROUGH MOTOR EXPRESSION AND SOCIAL PARTICIPATION; THE FROEBELIANS

Main points of the chapter. — 1. Froebel (1782–1852), directly influenced by Pestalozzi, conducted experimental schools in Germany from 1816 to 1852. In this way, beginning 1837, he became the founder of the kindergarten.

2. He reverted to Rousseau's idea of education through motor expression, but formalized it in practice as the Pestalozzians formalized object teaching.

3. He corrected Rousseau's theory of nonsocial education and made social participation a fundamental educative factor.

4. From his own peculiar introspective, mystical temperament Froebel developed a peculiar educational theory of symbolism which prevailed for a long time in the kindergarten.

5. Between 1850 and 1875 kindergartens were established in a few places in the United States, and between 1875 and 1900 they became common. They existed as parts of the public-school systems of approximately two hundred cities of over eight thousand population by 1900.

6. Progress in child psychology has resulted in a criticism and reform of some of the crudities in the original kindergarten practice. Many kindergartens, however, adhere to the old practices.

7. Froebel was one of the most influential personal factors in the development of systems of manual constructive work for general educative purposes. The sloyd system (Finland, 1866) is partially a direct outcome of his work.

8. Manual training was initiated in higher schools in the United States by the Russian exhibits at the Centennial Exposition of Philadelphia in 1876. Between 1883 and 1890 manual training was organized in the high schools of at least thirty-eight cities.

9. In the elementary school manual training developed during the same period. It consisted largely of kindergarten activities for "busy work" in the primary grades, and experimentation to find a system of exercises adapted to the two highest grades.

10. Colonel F. W. Parker and Professor John Dewey have been most influential in applying principles similar to Froebel's to the work of the elementary school. They have both emphasized (*a*) artistic and industrial activities as important forms of expression; (*b*) training in thought through expression, and training in expression through thought; (*c*) the importance of the real audience-situation as fundamental for training in expression.

11. Professor Dewey, on the basis of his fundamental principles of social psychology, makes the study of industries the central point of the curriculum. This study is conducted in the primary grades by having the children actively engaged to a certain extent in miniature industrial processes which are reproduced in the school.

12. Recently other psychologists (James, Thorndike, Judd), while emphasizing the importance of expression in relation to thought, have maintained that verbal expression is more important than the artistic and industrial forms of expression which the Froebelians emphasize.

Froebel continued and supplemented the Rousseau-Pestalozzi movement. — The previous discussion demonstrated that the Pestalozzian methods were dominant in the scientific and formal subjects of the elementary-school curriculum during the nineteenth century, and that the Herbartian influence affected especially the methods of teaching history and literature, particularly in the lower grades. Through the work of the Pestalozzians many of the reforms for which Rousseau had created enthusiasm were actually achieved in practice. On the other hand, the Herbartians supplemented and corrected the Rousseau tendencies by organizing moral instruction based on the study of history and literature.

Friedrich Froebel (1782–1852), a more intimate disciple of Pestalozzi even than Herbart, was largely responsible for two further innovations in practice: (1) he organized school training based on motor activity, as Rousseau had suggested; and (2) he corrected Rousseau's doctrines by making active social participation one of the most prominent elements in school life. These two innovations he organized most effectively in the kindergarten, of which he was the founder. His followers have carried them into the other grades of the elementary school.

Froebel's career and character. *Philosophy a dominant influence.* — Unlike Herbart, Froebel probably derived his educational theories to a considerable extent from his fundamental philosophy, and they were consistent with it. But since most students do not know or understand the theories or the history of modern philosophy, it is not worth while here to attempt to study Froebel's philosophy in order better to understand how he explained his educational belief. Moreover, those parts of his educational theory and practice that are proving most permanent do not depend for their validity upon his system of philosophy, but are consistent with quite opposite systems. For example, Froebel's favorite belief was in the unity of life, the unity of God and all things, the unity of mind and matter, etc., as expressed in the following quotation:

> In all things there lives and reigns an eternal law. . . . This all-controlling law is necessarily based on an all-pervading, energetic, living, self-conscious, and hence eternal Unity. . . . This Unity is God. All things have come from the Divine Unity, from God. . . . In all things there lives and reigns the Divine Unity, God. . . . The divine influence that lives in each thing is the essence of each thing. (1 : 1.)

To this belief in unity Froebel related his belief in organized play, motor expression, invention, and social participation as important factors in education. But it is possible to believe in all of these, and at the same time to believe in a fundamental philosophy that is just the opposite of Froebel's, namely, in a dualism of mind and matter, in a God of which the world is not a part, or in an atomic philosophy of the universe. In view of these facts we shall not enter into a further consideration of Froebel's metaphysics.

Froebel an enthusiastic follower of Pestalozzi. — Before arriving at the age of twenty-three Froebel had not seriously considered following teaching as a life work. His father had been a pastor of little means, and Froebel had not enjoyed the advantages of a very systematic education. He was largely self-instructed. He had been apprenticed to a forester for a

while; had spent a short time in study at the University of Jena (1800); and had served as a secretary, bookkeeper, and surveyor. He finally decided to study architecture, and went to Frankfort (in 1805) for this purpose. Here he became acquainted with Gruener (1778–1844), who had organized a most successful Pestalozzian school. Gruener advised Froebel to take up teaching as a profession and offered him a position in the Pestalozzian school. Froebel accepted, was very successful as a teacher, and, with the exception of a few years, devoted the rest of his long life to the improvement of education.

To better prepare himself for his new work, he spent two weeks at Pestalozzi's school in Yverdon (1805). Again, in 1808, he took to Yverdon three boys whom he was tutoring and entered them in Pestalozzi's school. Here he spent two years (1808–1810), studying Pestalozzian methods as they were organized in the various classes. In 1809 he wrote an enthusiastic account of Pestalozzi's methods, concluding with this paragraph:

> And thus the Pestalozzian method sets man forth on his endless path of development and culture on the way to knowledge, bound to no time and no space, a development to which there is no limit, no hindrance, no bounds.

Organized experimental and model schools. — After leaving Pestalozzi's school Froebel dropped teaching for six years, meanwhile pursuing university studies, serving in the Prussian army against Napoleon, and assisting in a mineralogical museum in Berlin. In 1816, using some of his brother's children as a nucleus, he organized an experimental school under the formidable title of The Universal German Institute. This school was similar in character and fortune to Pestalozzi's schools, prospering at times and again suffering such poverty that the few teachers and children had to subsist on wild fruits. Here, in 1826, Froebel published his most important pedagogical work, "The Education of Man." In 1829

he went to Switzerland, where he conducted various schools, one an orphanage in Burgdorf, the famous scene of Pestalozzi's labors.

The kindergarten period, 1837–1852. — Returning to Germany in 1837, Froebel devoted the rest of his life to the organization of education for children too young for the ordinary elementary schools. He opened a "school for little children" not far from his other school, which had continued under the management of one of his associates. The chief feature of this new school was organized play, and for several years such schools were known as "play schools." In 1840 Froebel hit upon the name *Kindergarten* for his new school. The latter was combined with his first school in 1844. From 1844 to his death in 1852 Froebel devoted his energies to propagating the kindergarten movement in Germany and to training girls to become kindergarten teachers. Some of the most important German cities and several of the smaller German states soon organized kindergartens, but in Prussia they were prohibited by a decree of 1851, ostensibly on the ground that they taught atheism. This was an absurd misrepresentation of Froebel's ideas, because he considered the development of religious insight the most important aim of education.

Froebel's extremely mystical religious temperament. — It is important to understand how extremely religious Froebel was, in order profitably to interpret his notions of child life. He is commonly described as a religious mystic, which means roughly that he believed it possible to attain a knowledge of God and divine things through direct experience, as from the "voice of nature." Coupled with this mysticism, or as a part of it, was an exaggerated tendency to introspection, that is, to a reflective examination and analysis of his own mental life, his experiences, his emotions, his motives, and his behavior.

"Uninterrupted self-observation, self-reflection, and self-education," he said, "is the key to my life, early shown and continued to the later periods of it." If we may believe his

own account (written when he was about forty-seven years of age), he had experiences as a child that many people never have, even as adults. Thus he said in his autobiography:

> Three crises of my inner life which happened before my tenth year I must bring out here before I turn to my outer life of this period. As folly, misconception, and ignorance, even in the earliest epoch of the world, are presumed to have determined its ruin, so it happened in the time of which I now speak. My inner life was then very quiet. I said to myself, very determinedly and clearly, the human race will not leave the earth until it has reached so much perfection in this dwelling place as can be reached on earth. The earth — nature in the narrow sense — will not pass away until men have attained a perfect insight into the composition of the same. This thought often returned in different aspects to me; to it I often owed rest, firmness, perseverance, and courage.

These ultrareligious, introspective elements in Froebel's personality are important in relation to his educational theory for two reasons: (1) he overestimated the value of these elements in the lives of most people; and (2) he failed to realize that most children do not, in fact cannot, have such experiences.

Froebel's educational theory. — In the light of the previous discussion of the factors in Froebel's career, his theories may be divided into two classes: (1) those that are peculiar expressions of his own mystical introspective temperament; and (2) those that are based on more generally valid facts of human nature. In the further study it will be worth while to keep this division in mind.

Froebel's curriculum. — Before discussing the educational theories and practices for which Froebel deserves especial credit, however, we shall glance at the curriculum of the elementary school as he outlined it, in order to note in what respects he repeats the work of Rousseau and Pestalozzi. His discussion of the curriculum is contained in Chapter VI of "The Education of Man" and occupies the last third of the book as translated. The chapter is headed Connection between the School and the Family and the Subjects of Instruction it implies. In the second sentence he says, "The union of

the school and life, of domestic and scholastic life, is the first and indispensable requisite of a perfect human education of this period [boyhood]." This is easily recognized as a reiteration of Pestalozzi's fundamental contention. Under a "particular consideration of the different subjects of instruction" Froebel takes up the following points (I have indicated in brackets after some of the points their relation to movements previously studied):

A. Arousing and cultivation of the religious sense.

B. Respect for the body, knowledge and cultivation of it. [Same as emphasis by Rousseau, Basedow, and Pestalozzi on physical training.]

C. Observation of nature and surroundings. [Typical Pestalozzian *Heimatskunde* leading to geography, natural history, and physics.]

D. Memorizing of short poetical representations of nature and life, particularly for purposes of song.

E. Language exercises based on the observation of nature and surroundings. [Typical Pestalozzian oral language lessons.]

F. Exercises in systematic outward corporeal representation, proceeding from the simple to the complex. [Various forms of constructive work outlined.]

G. Drawing in the network (of lines) or in accordance with outward law. [Horizontal and vertical lines used as primary guides in creating forms.]

H. Study of colors, coloring of outline pictures, painting in the network (of lines).

I. Play, or spontaneous representations and exercises of all kinds.

J. Narration of stories and legends, fables and fairy tales, etc. Only the study of the life of others can furnish such points of comparison with the life he himself has experienced. In these the boy can view the latter as in a mirror, and learn to appreciate its value. [The same point emphasized by Herbart in the study of the Odyssey, etc. Froebel has probably exerted as much influence along this line as Herbart.]

K. Short excursions and walks. [Home geography of Rousseau, Salzmann, and Pestalozzi.]

L. Arithmetic. [Pestalozzian objective methods.]

M. Form lessons (geometry). [Pestalozzian.]

N. Grammatical exercises.

O. Writing. [Pestalozzian method of beginning with lines, letters, words, syllables, etc.]

P. Reading. [To follow writing.]

Many Pestalozzian and Rousseau elements in Froebel's outline. — It is evident from the comments inserted in brackets in the foregoing outline that Froebel copied many of the Pestalozzian practices directly. So much was this the case that it was not uncommon for contemporary German educators to assert that Pestalozzi had achieved all that Froebel advocated.

The similarity to Rousseau's curriculum is also evident. Many of the passages in Froebel's "The Education of Man" are so similar to the statements in Rousseau's "Émile" that one might imagine that the latter was the source of the former. This similarity is probably due to the absorption from the generally dominant Rousseau movement, from reading Rousseau, Pestalozzi, Jean Paul Richter, Goethe, Schiller, and others, rather than to direct copying of the "Émile." The following quotations from "The Education of Man" show, however, how thoroughly Froebel had imbibed the fundamental philosophy of the "Émile," namely, the cultivation of the child's instincts and capacities as the basis of education :

1. Education . . . should necessarily be passive, following (only guarding and protecting), not prescriptive, categorical, interfering. (1: 7.) [Rousseau's negative education.]

2. The young human being . . . seeks, although unconsciously, as a product of nature, yet decidedly, and surely, that which is in itself best; and, moreover, in a form wholly adapted to its condition, as well as to his disposition, his powers, and means. (1: 8.) [Rousseau's nature-is-right theory.]

3. The vigorous and complete development and cultivation of each successive stage depends on the vigorous, complete, and characteristic development of each and all preceding stages of life. . . . The child, the boy, man, indeed, should know no other endeavor but to be at every stage of development wholly what this age calls for. (1: 29–30.) [Rousseau's theory of maturing.]

4. Let parents — more particularly fathers — . . . contemplate what the fulfillment of their parental duties in child guidance yields to them; let them feel the joys it brings. . . . Let us live with our children. (1: 87–89.) [Rousseau's epoch-making appeal reiterated.]

Many other quotations could be given showing how similarity in certain fundamental principles of Rousseau and Froebel is accompanied by similarity in the details of education.

We will next take up three of Froebel's theories, the embodiment of which in practice is especially and directly due to his influence. These factors are the following: (1) symbolism; (2) motor expression, including play; and (3) social participation.

Symbolism. *Froebel keenly interested in analogies between physical and spiritual phenomena.* — Froebel's philosophy of unity and his mystical religious tendency included the belief that the same processes of change are found in physical development as occur in spiritual or mental and social development, and that the study of changes or laws in one of these realms would inform a person concerning similar changes in the other realms. Thus he said:

> A life of more than thirty years with nature, often, it is true, falling back and clouded for great intervals, has taught me to know this, especially the plant and tree world, as a mirror, I might say, an emblem of man's life in its highest spiritual relations; so that I look upon it as one of the greatest and deepest conceptions of human life and spirit when in holy scripture the comparison of good and evil is drawn from a tree. Nature, as a whole, even the realms of crystals and stones, teaches us to discriminate good from evil; but, for me, not so powerfully, quietly, clearly, and openly as the plant and flower kingdom. (**2**: 25.)

Believed a study of nature developed a moral insight. — The discovery and statement of analogies between physical and mental or social phenomena is a favorite pastime of poets and is to be distinguished from the contention of Froebel, that a knowledge of one will make one wise about the other; for example, that a study of the laws of crystallization will teach one the laws of psychology and sociology. This position, however, is also often maintained by poets, notably by Wordsworth.

On the other hand, some of the most profound thinkers maintain the opposite. Of these, Thomas Davidson (1840–1900), a very philosophical American writer on education, is an example, and both points of view are contained in the following quotation from his discussion of Rousseau:

Wordsworth "that uttered nothing base" was, in all but moral infirmity, a thorough-going disciple of Rousseau. He even followed him in his mystic feeling for Nature, and his confusion of the tenderly emotional with the ethical. Hence such sheer nonsense as this: —

> One impulse from a vernal wood
> May teach you more of man,
> Of moral evil and of good,
> Than all the sages can.

If this be true, let us abandon all sages and all books, and sit at the feet of some "vernal wood"! . . . Wordsworth is full of such beguiling untruths. (**22**: 230, note.)

Froebel not only held an extreme belief in symbolism, but maintained that an appreciation of analogies is an important factor in education. Thus, after discovering certain analogies between the development of crystals and "the development of the human mind and human heart," he said:

Like all similar facts, this analogy in the development of nature and of man is very important for the purposes of self-knowledge and of the education of self and others; it throws light and clearness upon human development and education, and gives firmness and sureness of action in their various requirements. (**1**: 173.)

Examples; symbolism of the ball, cube, and play. — Applying this conception of the importance of symbolism to the education of little children, Froebel maintained that children are capable of appreciating symbolic analogies and that it is important that they do so. The following examples show his application of this theory in the use of the ball, the cube, and games, as described in his "Pedagogics of the Kindergarten":

The child . . . perceives in the ball the general expression of each object as well as of itself [the child] as a self-dependent whole and unity . . . so the child likes to employ himself with the ball, even early in life,

in order to cultivate and fashion himself, though unconsciously, through and by it, as that which is his opposite and yet resembles him. (4: 32.)

The cube is to the child the representative of each continually developing manifold body. The child has an intimation in it of the unity which lies at the foundation of all manifoldness and from which the latter proceeds. (4: 105.)

The pleasure with which the children play these games and others of a similar kind may therefore have its ground in a presentiment of what is symbolic and significant in them. May not their delight in these encircling movements, for example, spring from the longing and the effort to get an all-round or all-sided grasp of an object? . . . I am convinced that the exalted and often ecstatic delight of children in their simple movement plays is by no means to be explained through the exertion of mere physical force — mere bodily activity. The true source of their joy is the dim premonition which stirs their sensitive hearts that in their play there is hidden a deep significance; that it is, in fact, the husk within which is concealed the kernel of a living spiritual truth. (4: 260.)

The practical application of this theory of symbolism in the kindergarten, and its criticism and rejection by some recent authorities, will be presented later in the chapter. We shall now turn to the second of Froebel's fundamental principles.

Education through motor expression. *Froebel reiterated Rousseau's theory.* — In the chapter on Rousseau's "Émile" it was shown that Rousseau emphasized physical activity as fundamentally necessary for the best maturing of the child, and organized for Émile's education constructive work in connection with sense perception and the solution of small scientific problems. Later we found that Pestalozzi, while he organized domestic industrial education for the poor, placed relatively little emphasis on similar constructive work in his Burgdorf and Yverdon schools for children of the middle class. Moreover, he made his sense-perception instruction largely a matter of passive observation, instead of associating it with constructive expression. Froebel, however, reverted to the method advocated by Rousseau and made motor (that is, physical) activity, or motor expression, the basis of learning.

This constitutes his chief improvement on the Pestalozzian methods. To be sure, Pestalozzi provided instruction in drawing, modeling, and music as forms of expression, and Froebel got many of his ideas from such Pestalozzian practices. Nevertheless Froebel deserves credit (with certain other persons) for effectively organizing the various forms of expression into the practical schoolroom processes of the later nineteenth century, and for making motor expression the essential instead of an incidental factor in school work.

Froebel said man as image of God should create. — Although Froebel's position agrees essentially with Rousseau's, his point of departure was largely religious, while Rousseau's was psychological, that is, based on the relation between motor activity and thinking. Froebel expressed his religious basis as follows:

> *God creates and works productively in uninterrupted continuity. . . . God created man in his own image; therefore man should create and bring forth like God.* We become truly Godlike in diligence and industry, in working and doing, which are accompanied by the clear perception or even by the vaguest feeling that thereby we represent the inner in the outer, that we give body to spirit, and form to thought. . . . Of children, too, is the kingdom of heaven; for, unchecked by the presumption and conceit of adults, they yield themselves in childlike trust and cheerfulness to their formative and creative instincts. (1: 30.)

Superior developing influence of motor expression. — The general psychological value of education through motor expression, or education by doing, was expressed by Froebel in the following words, which more closely resemble Rousseau's form of statement than does the religious argument expressed above:

> Experience and history, too, teach that men truly and effectively promote human welfare much more by what they put forth from themselves than by what they may have acquired. Every one knows that those who truly teach, gain steadily in knowledge and insight. . . . Again, to learn a thing in life and through doing is much more developing, cultivating, and strengthening than to learn it merely through

verbal communication of ideas. Similarly, plastic material representation in life and through doing, united with thought and speech, is by far more developing and cultivating than the merely verbal representation of ideas. (1: 279.)

Advocated two hours a day of constructive work. — Froebel's practical conclusion from the foregoing was formulated as follows:

The young growing human being should, therefore, be trained early for outer work, for creative and productive activity . . . play, building, modeling are the first tender blossoms of youth. . . . Every child, boy and youth, whatever his condition or position in life, should devote daily at least one or two hours to some serious activity in the production of some definite external piece of work. It would be a most wholesome arrangement in schools to establish actual working hours similar to the existing study hours; and it will surely come to this. (1: 34–35.)

Child interested in activity, boy in result. — The psychological difference between the activities of little children and of older children, Froebel expressed as follows: "What formerly the child did only for the sake of the activity, the boy now does for the sake of the result or product of the activity; the child's instinct of activity has in the boy become a formative instinct."

Boy learns by imitating domestic and industrial activities. — Pestalozzi emphasized training in domestic labor for poor children, but Froebel showed that every child develops through a playful imitation of adult activities. He said:

If in his former activity [in childhood] he imitated phases of domestic life, in his present activity [in boyhood] he shares the work of the house — lifting, pulling, carrying, digging, splitting. . . . The son accompanies his father everywhere — to the field and to the garden, to the ship and to the counting house, to the forest and to the meadow, in the care of domestic animals and in making small articles of household furniture. . . . Question upon question comes from the lips of the boy thirsting for knowledge. How? Why? When? What for? Of what? and every somewhat satisfactory answer opens a new world to the boy. (1: 101.)

Here he makes a little garden under the hedge near the fence of his father's garden; there he represents the course of the river in his

furrow and in his ditch . . . he is fond of busying himself with plastic substances (sand, clay). . . . Boards, branches of trees, laths, and poles are made into a hut. . . . (1: 105.)

Four forms of artistic expression necessary for development. — Froebel proposed to use not only the constructive activities of the industries, but also the fundamental forms of artistic expression, saying:

A universal and comprehensive plan of human education must, therefore, necessarily consider at an early period singing, drawing, painting, and modeling; it will not leave them to an arbitrary, frivolous whimsicalness, but treat them as serious objects of the school. Its intention will not be to make each pupil an artist in some one or all of the arts, but to secure to each human being full and all-sided development, to enable him to see man in the universality and all-sided energy of his nature, and, particularly, to enable him to understand and appreciate the products of true art. (1: 228.)

Froebel's plan of a school for education through expression. — In 1829 Froebel had hopes of organizing an institution in Helba, Germany, in which his theories of education would be carried out on a large scale.

This school [he said] will be based on the interdependence of *doing* and *thinking*, *representation* and *knowledge*, *art* and *science* . . . on the student's personal efforts in work and expression, making these again the foundation of all genuine knowledge and culture. Joined with thoughtfulness, these efforts become a direct medium of culture; joined with reasoning, they become a direct means of instruction, and thus make of work a true subject of instruction. (1: 38.)

The following summary of Froebel's plan for this school is given by the translator of "The Education of Man":

Froebel proposed to devote the forenoon to instruction in the current subjects of school study, and the afternoon to work in the field, the garden, the forest, in and around the house. His list of occupations comprised the preparation of wood for the kitchen and furnace; the making of simple wooden kitchen utensils; the weaving and binding of mats, for the table and for the floor; the binding of books and the ruling of slates and practice-paper; the making of a variety of collections of objects of nature and art, and of suitable boxes for these objects . . . the

care of pigeons, chickens, ducks, etc.; the preparation of artistic and geometrical forms with paper in folding, cutting and mounting, pricking, weaving, interlacing, etc.; the use of pasteboard in the making of stars, wheels, boxes, napkin rings, card baskets, lamp shades, etc.; play with splints, tablets, sticks and peas; the whittling of boats, windmills, waterwheels, etc.; the making of chains and baskets from flexible wire; modeling with clay; drawing and painting; and many other things. (1: 38.)

This plan included practically everything (except forging and machine work) that has been organized in the manual-training work of recent years, for which it was one of the most influential models. The development of manual training will be traced later in the chapter.

The foregoing discussion of Froebel's ideas concerning education through motor expression has included such a wealth of quotations, with some repetition, in order to enable the student to appreciate how important Froebel considered this principle to be, how thoroughly recent educational theory has adopted his phrases, and how definitely he suggested subsequent practice. We shall now take up his third important principle.

Education through social participation. — Froebel's first principle, namely, symbolism, was an expression of his own mystical temperament. His emphasis on motor expression, the second principle, was but a reiteration of one of the fundamental points of Rousseau's "Émile." Froebel's third principle, namely, education through social participation, was, on the other hand, the exact opposite of Rousseau's theory of nonsocial education. Although this principle is very fundamental with Froebel, it is not repeated as often in his writings as are the other two that we discussed. Some of the quotations made above in connection with motor expression emphasized also the development of the child through his participation in the activities of his father and in other social situations. Further expressions of Froebel's idea are contained in the quotations which follow.

Coöperation a fundamental social necessity. — In 1845, when he was advocating the organization of a general union to provide better educational facilities in Germany, Froebel wrote:

> The purpose of the Union is to accustom men to coöperate with each other in a conscious and mutually profitable manner. Such a custom is best started in infancy, of course, but, if neglected at the proper time, it may still be produced at any subsequent time. Man should develop in harmony, peace, and joy within himself and with those around him, in accordance with human nature and destiny; and this should continue through all stages of development, and in all the various circumstances of life, in the family and school, in domestic and public life. (**23**: 43.)

Froebel described coöperative group play of boys. — Froebel found this element of coöperation to be a prominent natural characteristic of the plays of boys at a certain age and discussed these at length in his "The Education of Man." Describing their play with building blocks, etc., in which individual children had constructed a castle, a chapel, and a village, he said:

> Now each one has finished his work; each one examines it and that of the others. In each one rises the thought and the wish to unite all in a connected whole; and scarcely has this wish been recognized as a common one, when they establish common roads from the village to the ruin, from this to the castle, etc. (**1**: 100.)

Emphasized social training secured in coöperative play. — Further description of the same sort is followed by an evaluation of the educative elements contained in these natural group activities, as follows:

> It is by no means . . . only the physical power that is fed and strengthened in these games; intellectual and moral power, too, is definitely and steadily gained and brought under control. . . . Justice, moderation, self-control, truthfulness, loyalty, brotherly love, and again, strict impartiality — who, when he approaches a group of boys engaged in such games, could fail to catch the fragrance of these delicious blossomings of the heart and mind, and of a firm will? . . . Thus, the games directly influence and educate the boy for life, awaken and cultivate many civil and moral virtues. (**1**: 113.)

These statements indicate Froebel's theory of training through social participation. To summarize, he maintained (1) that coöperation is a fundamental social necessity and virtue; (2) that it should be cultivated even from infancy; (3) that the instinctive equipment of the child includes a natural tendency to coöperation; (4) that this is manifested in coöperative games, which are a fundamental factor in the child's social development.

We shall now take up a discussion of the kindergarten as organized by Froebel to embody these fundamental principles of symbolism, motor expression, and social participation in the training of little children.

The kindergarten. *Practical necessity for organized training of little children.* — In the discussion of Froebel's career it was stated that he organized his first "school for little children" in 1837, thirty-two years after he had begun his work as a Pestalozzian teacher. The practical necessity for organized training of children less than six years of age, under the direction of women, was emphasized by Froebel in these words:

> Womanly love as well as manly strength are necessary for the child's perfect development. Women of the middle class do little for the all-sided and highest life of their children; and women of the lower classes do a great deal less. What we want is a band of earnest, noble-minded women who will form a national association for the benefit of infancy. Their object should be to surround children with conditions favorable for perfect education. . . . Whatever has to be done for the human being should be done in his earliest years, and that persistently. Intermittent and casual training is of little service. (**9**: 160.)

Froebel's system of infant training more significant than other systems. — Froebel was not the originator of the organized care of children below the ordinary school age. Infant schools had been generally established in England and Scotland during the first third of the nineteenth century, and the Home and Colonial Infant School Society, which we noted in connection with the Pestalozzian movement, was organized in

1836. This society introduced certain Pestalozzian modifications in the technique of training little children, which, in England, was generally patterned after the methods of Samuel Wilderspin, who began his work with infant schools about 1820. For our purposes, however, Froebel's work is more important than these other enterprises for two reasons: first, the theoretical educational foundation is more significant and far-reaching; and second, it has been the basis of the dominant practice in the education of little children in the United States in recent years.

Organized children's games as an educational form of motor expression. — As noted above, the kindergartens in the early years were sometimes known as "play schools," a name which suggests their chief characteristics. The moral value which Froebel found in boys' games has also been described. In connection with the kindergarten age he said:

> Play is the first means of development of the human mind, its first effort to make acquaintance with the outward world, to collect original experiences from things and facts, and to exercise the powers of body and mind. The child indeed recognizes no purpose in it, and knows nothing, in the beginning, of any end which is to be reached when it imitates the play it sees around it, but it expresses its own nature, and that is human nature in its playful activity. (**6**: 67.)

Kindergarten systematizes mother play. — In 1843 Froebel published a small book containing fifty little games or songs, each accompanied by an appropriate picture and explanatory notes. The book bore the title "Mutter-Spiel und Koselieder" and is usually known in English by this title or by the abbreviated translation, "Mother Play." The theory of the book was thus expressed by Froebel:

> What the natural mother does incidentally, intermittently, and disconnectedly we must learn to do with conscious intent and in logical sequence. We must recognize the reason implicit in [maternal] instinct, learn its methods, and, without losing its *naïveté*, develop into a systematic procedure its incidental suggestions. (**5**: 125.)

Patsche-Kuchen
"Mag auch wohl ein höh'rer Sinn
In dem Patsche-Kuchen liegen?—
O, wohl liegt er klar darin:
Willig muß sich Mehres fügen,
Jeder auch zur rechter Zeit
Sein an seinem Theil bereit,
Soll das Werk gelingen
Und uns Freude bringen."

THE GAME OF PAT-A-CAKE

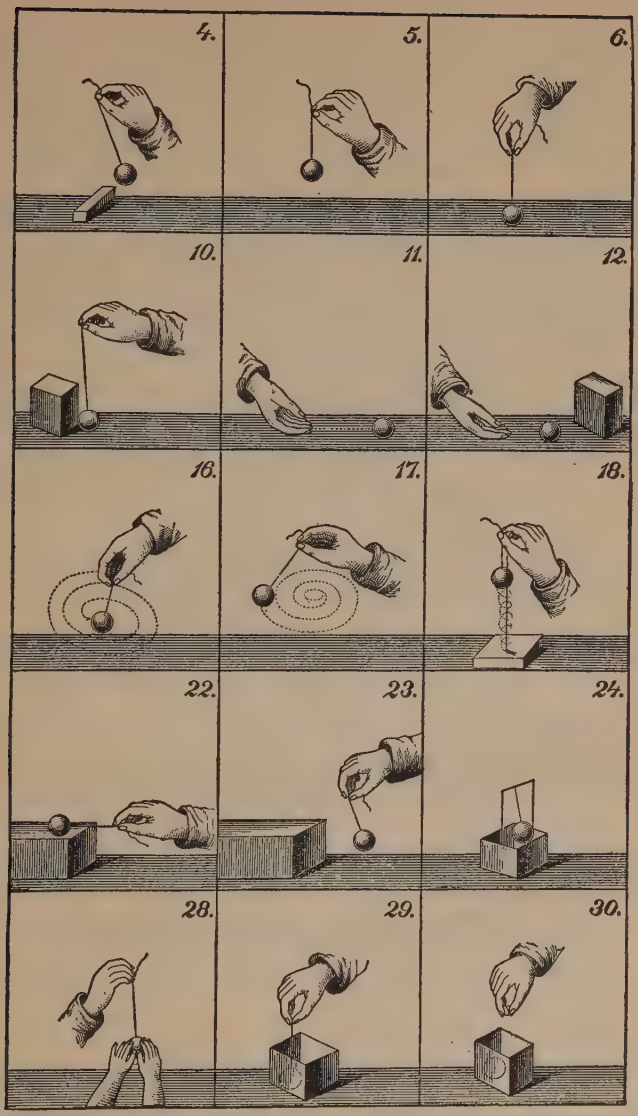
Notice the domestic, industrial, moral, and playful elements represented. Reproduced by permission of the publishers from "The Mottoes and Commentaries of Froebel's 'Mother Play.'" (D. Appleton and Company)

The book contains the ordinary nursery games such as pat-a-cake, hide and seek, the carpenter, the charcoal burner, etc. The finger and arm movements to be made by mother and child are described. Moralizings are added concerning the actual or analogous situations represented in the game, thus using the various opportunities that arise for instructional purposes. For example, the play of ticktack involves the intellectual element of telling time and the moral element of promptness.

The "Mother Play" has constituted one of the most important elements in the training of kindergarten teachers, in spite of the fact that it is a relatively crude attempt to put Froebel's principles into practice.

Play materials organized as gifts and occupations. — In the further organization of child play Froebel constructed a systematic series of playthings. These were developed gradually by experimentation. They were packed in boxes and sold for school purposes. Some are known as "gifts" and some as "occupations," but they are all materials for stimulating the child's motor expression. They include soft balls, a sphere, a cube, a cylinder, small cubes or blocks which may be used for building plays, sticks which may be arranged to form geometrical or artistic forms, paper for folding, and other materials for drawing, modeling, weaving, etc.

Occupations an improvement on Pestalozzian object teaching. — Like Herbart, Froebel started with Pestalozzi's "Book for Mothers" (1803) and other discussions of the latter's idea of an ABC of sense perception. Herbart developed this idea in the direction of training in elementary trigonometry. Froebel, although in 1809 an enthusiastic believer in Pestalozzi's "Book for Mothers," later concluded that the relatively passive observation and description of objects which Pestalozzi described was not as educative as active constructive work and play with similar materials. His gifts and occupations were provided to carry out this conclusion in practice. The



METHOD OF PLAYING WITH FROEBEL'S FIRST GIFT — A BALL

Reproduced by permission of the publishers from Froebel's "Pedagogics of the Kindergarten," (D. Appleton and Company)

possibilities of varied activity with some of the simpler gifts is indicated by the fact that Froebel and his friends worked out over one hundred games in which only the ball is used. These games included melodies and the movements of running, jumping, marching, sliding, rolling, flying, etc.

The constructive materials were used for making geometrical forms and "forms of beauty." This was a great deal like the Pestalozzian inventional drawing, using blocks and splints instead of a pencil. The possibilities of such work were developed very fully by Froebel, and even skeptical adult visitors to his kindergarten often became intensely interested in seeing what a variety of forms they themselves could invent with the play materials provided for the children.

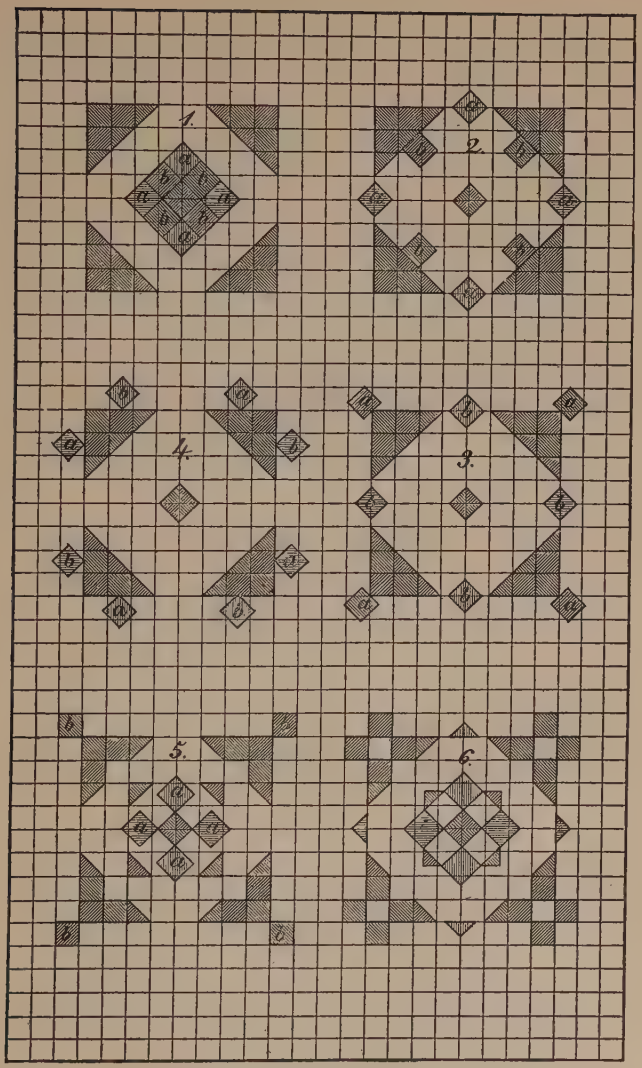
Symbolic values of the gifts emphasized by Froebel. — The quotations given earlier in the chapter under the general topic of symbolism indicated Froebel's conception of the symbolic use of such materials. This element in their use has been copied very generally among kindergartners and will be criticized later in the chapter.

The kindergarten conceived as a miniature society. — The principle of social participation was applied by Froebel even in the kindergarten period. Thus Baroness von Bülow, when associated with Froebel (about 1850), said:

> By means of kindergartens a place of education is created which represents a *miniature state* for children, in which the young citizen can learn to move freely, but with consideration for his little fellows. This cannot be done . . . in the family; it needs a larger social circle. (**6**: 13.)

A sympathetic description of Froebel's kindergarten, in terms of this conception, appeared in a German newspaper (about 1841) as follows:

> It is surprising to see the order and harmony that reigns among these little citizens under six years of age. The very smallest of them evidently feels himself to be a responsible member of the little community; and far from wishing by frivolity or perversity to disturb the order of the class, he responds readily to the gentle discipline that rules and directs



CONSTRUCTION OF "FORMS OF BEAUTY" WITH FROEBEL'S FIFTH GIFT — BLOCKS

Reproduced by permission of the publishers from Froebel's "Pedagogics of the Kindergarten." (D. Appleton and Company)

the proceedings, and is delighted to lend his small powers to the completion of the common task. It is interesting to watch the children's pleasure . . . as they represent the familiar scenes and doings of ordinary life, such as feeding chickens, mowing, digging, or hammering. The kindergarten games lend themselves charmingly to these little dramas. (**9**: 166.)

These descriptions depict the kindergarten as Froebel conceived it. It remains to trace its propagation.

Kindergarten in the United States. *General establishment between 1875 and 1900.* — In the discussion of Froebel's career it was stated that kindergartens were established about 1840 in some of the important German cities and some of the smaller German states but were received with suspicion in Prussia. This gradual adoption continued in Europe; but, inasmuch as the United States has adopted and developed the kindergarten more thoroughly than any European country, it will suffice to trace its further history in America only. The development may be briefly outlined as follows :

1. 1850–1860. Cultured German emigrants, who had left Europe during the troubled revolutionary period following 1848, settled in those American cities containing a large per cent of their fellow countrymen, and opened private schools for their children. These schools very commonly contained kindergartens.

2. 1856. The first influential description of European kindergartens was published by Henry Barnard in his *American Journal of Education* in 1856. His account was based on a visit in 1854 to an educational exposition in England.

3. 1860. The first ardent American apostle of the kindergartens, Miss Elizabeth Peabody of Boston, was inspired by some of the German emigrants mentioned above, and opened a kindergarten in Boston in 1860. Later (1867) she went to Europe to study Froebelism.

4. 1868. The first American school for training kindergarten teachers was opened in Boston in 1868. Another was

established in New York in 1873. Both were conducted by ladies who had been trained under Froebel's associates in Europe.

5. 1880–1890. Many associations of private individuals were organized in the larger cities between 1880 and 1890 to maintain kindergartens. A few had been established in the preceding decade; namely, in Milwaukee in 1870, San Francisco in 1878, Cincinnati in 1879, Chicago in 1880. By 1897 over four hundred such associations were in existence.

6. 1880–1900. Public-school kindergartens were actively established between 1880 and 1900, especially after 1890. They were introduced into more than twenty-five public-school systems between 1880 and 1890; by 1897 they had been introduced into one hundred and eighty-nine cities of over eight thousand inhabitants. Before 1880 public kindergartens had been established in only two large cities, namely, Boston, which maintained one for a few years after 1870; and St. Louis, where they were in existence from 1873. Their successful establishment in St. Louis was another of the important innovations of Superintendent Harris.

Special legislation necessary to permit public kindergartens.—The general adoption of the kindergarten as a part of public-school systems was impeded by the fact that in most states the public schools did not admit children under five or six years of age. Consequently, before city schools could admit younger children it was necessary to secure state legislation lowering the entrance age. In some states this legislation was not necessary; in others it was secured after 1880; in some, where it is necessary, the efforts to secure it have failed, and though the cities in such states may maintain kindergartens, they may not admit children under five or six years of age.

Harris and Hailmann leading advocates of kindergarten.—William T. Harris (1835–1909) and W. N. Hailmann (b. 1836) were the two public-school superintendents who were

most active in introducing the kindergarten into America. Both were prominent advocates of certain Pestalozzian as well as Froebelian methods. Hailmann prepared one of the first American manuals of kindergarten methods, entitled "Kindergarten Culture," which was published in 1873. He also translated Froebel's "The Education of Man," and in 1884 was made first president of the newly organized kindergarten section of the National Educational Association. Superintendent Harris was keenly in sympathy with the general idealistic tendency of Froebel's philosophy, and his successful maintenance of kindergartens as part of a large public-school system was an influential factor in convincing schoolmen of their value.

St. Louis kindergarten (1873) emphasized symbolism and industrial training. — Superintendent Harris was assisted in the organization of the St. Louis kindergartens by Miss Susan Blow, who gave her services gratuitously in the early years. Miss Blow has been the most prolific American writer on Froebelian theory and practice. The accounts which she and Mr. Harris published in the St. Louis school reports are important historical documents. Those for 1875–1876 and 1878–1879 are particularly valuable. In these reports, as in her later writings, Miss Blow took the position that the use of the kindergarten materials in the same order and by the same method that Froebel prescribed is essential for securing their educative results, and that this order corresponds to the order of development of the child's own intelligence and appreciation. Concerning symbolism she took a similar attitude, saying:

> The symbolism involved in all things — for in nature everything corresponds to spirit, and hence each lower, material object is in some sense a key to unlock the perception of a higher, more subtle object — this symbolism is the basis of the intellectual value of the gifts of Froebel.

One of the most interesting phases of Mr. Harris's discussion of the kindergarten was printed under the heading

"Industrial Education—Where it should begin." He argued at length for the value of the two years spent in kindergarten occupations in "starting into development activities of muscle and brain which will secure deftness and delicacy of industrial power in all after life." But such training should have no place in the ordinary elementary grades, according to Mr. Harris.

> Beyond the seventh year of age the time of the child is too valuable to use it for other than general disciplines—reading, writing, arithmetic, etc., and drawing. He must not take up his school time with learning a handicraft. . . . After the common-school education is finished, the "manual-training school" will complete the preparation for a trade. (**25**: 126.)

Thus Mr. Harris described the condition that has commonly prevailed down to the present time (1912), namely, constructive work in the lowest grades and in the highest grades of the public schools, but none in between.

Modification of Froebelian kindergarten theory and practice. *Progressive school modernizes materials and games.*— Two rather clearly defined sects of kindergartners have come into existence in recent years: first, those who believe in a close adherence to Froebel's materials, games, sequence, and symbolic significance; and second, those who accept some of Froebel's fundamental educational principles but do not believe it necessary to follow his particular devices. Miss Blow has been the most prominent leader of the conservative school, and there are at present many prominent leaders of the younger progressive school. The progressives believe in a selection of materials, games, miniature industrial processes, etc., from the world with which the child of to-day is in contact, as a means of aiding him to appreciate it, instead of adhering to those which Froebel selected from the relatively primitive village life with which he was associated. The progressives also, as a rule, do not emphasize the symbolic values supposed to inhere in Froebel's devices. In this

they are supported by modern psychological analysis of child experience. We shall present the statements of two leading psychologists on the subject.

Modern psychologists reject Froebelian symbolism: Dewey; Thorndike. — In addition to the mystical, symbolic tendencies inherent in Froebel's temperament, Professor John Dewey offers as a partial explanation of Froebel's belief in symbolism the following statements:

> It must be remembered that much of Froebel's symbolism is the product of two peculiar conditions of his own life and work. In the first place, on account of inadequate knowledge at that time of the physiological and psychological facts and principles of a child's growth, he was often forced to resort to strained and artificial explanations of the value attaching to the plays, etc. To the impartial observer it is obvious that many of his statements are cumbrous and far-fetched, giving abstract philosophical reasons for matters that now receive a simple everyday formulation. In the second place, the general political and social conditions of Germany were such that it was impossible to conceive continuity between the free, coöperative social life of the kindergarten and that of the [reactionary, monarchial] world outside. Accordingly he could not regard the occupations of the schoolroom as literal reproductions of the ethical principles involved in community life — the latter were often too restricted and authoritative to serve as worthy models. Accordingly he was compelled to think of them as symbolic of abstract ethical and philosophical principles. There certainly is change enough and progress enough in the social conditions of the United States of to-day, as compared with those of Germany of his day, to justify making kindergarten activities more natural, more direct, and more real representations of current life than Froebel's disciples have done. (17: 145.)

Speaking of the impossibility of the child experiencing the symbolic meaning of a thing that Froebel expected him to, Dewey said:

> Practically all he [the child] gets out of it is its own physical and sensational meaning, plus, very often, a glib facility in phrases and attitudes that he learns are expected of him by the teacher — without, however, any mental counterpart. We often teach insincerity, and instill sentimentalism, and foster sensationalism when we think we are teaching truths by means of symbols. The realities reproduced, therefore, by the

child should be of as familiar, direct and real a character as possible. It is largely for this reason that in the kindergarten of our school the work centers so largely about the reproduction of home and neighborhood life. (17: 147.)

In his "Notes on Child Study" (1903) Professor E. L. Thorndike advanced similar criticisms as follows:

And what shall I say of those who by a most extraordinary intellectual perversity attribute to children the habit of using common things as

AFTER LUNCHEON IN DEWEY'S RECONSTRUCTED KINDERGARTEN, 1900

Reproduced by permission of the publishers from the *Elementary School Record*. (University of Chicago Press)

symbols of abstractions which have never in any way entered their heads; who tell us that the girl likes to play with her doll because the play symbolizes to her motherhood; that the boy likes to be out of doors because the sunlight symbolizes to him cheerfulness? . . .

If we live in houses because they symbolize protection, if we like to see Sherlock Holmes on the stage because he symbolizes to us craft, or Uncle Tom because he symbolizes to us slavery, or a clown from the

circus because he symbolizes to us folly; if we eat apples because they symbolize to us the fall of man, or strawberries because they symbolize to us the scarlet woman, then perhaps the children play with the ball because it symbolizes "infinite development and absolute limitation."

No one has ever given a particle of valid evidence to show any such preposterous associations in children's minds between plain things and these far-away abstractions. (**18**: 77–80.)

Thus the tendency of the progressive kindergartners to emphasize reality rather than symbolism in the kindergarten finds support from, in fact is largely due to, the very positive stand taken by scientific psychologists against Froebel's theory.

The manual-training movement. *Aim more general than industrial education.* — The use of constructive activities for educational purposes has found a place in all grades of American schools in a variety of forms since 1876. The work has not always been based on the same theory as in the kindergarten, but sometimes it has, and in such cases Froebel's influence has been a prominent factor.

While the development of manual-training courses has usually been associated more or less with the idea of training for industrial efficiency, still a sharp distinction has commonly been made between the two kinds of training. The historical connection between the two is suggested by such facts as the development of the name of the department of the National Educational Association which has been devoted to a consideration of manual work. In 1875 this department was organized as the Department of Industrial Education; in 1890 its name was changed to the Department of Industrial and Manual Training; in 1899 it became simply the Department of Manual Training; but since 1907 its meetings have been devoted largely to a consideration of industrial education, although this topic is no longer included in its name.

The distinction between industrial education and manual training is this: Industrial education is the training of industrial workers for industrial efficiency, thus aiming rather

directly at industrial improvement. Manual training, on the other hand, is the use of constructive activities in the school for general educative purposes, that is, for the same purpose as reading and geography, for example. Thus manual training might be provided for those intending to become bookkeepers, school-teachers, etc., who might never use, in a practical way, the skill with tools which they would acquire.

Industrial-improvement schools of Europe distinguished from manual training. — The histories of manual training in Europe usually emphasize this distinction between manual training and industrial training. Industrial schools of a great variety of types have existed in Europe in great numbers for many years. These have arisen in a variety of ways in response to varying industrial needs. The manual-training idea, on the other hand, owes its development to relatively few influences, among which that of Froebel may be counted as one of the most important.

Froebel's Helba plan probably derived from Heusinger's writings. — In our general discussion of motor expression earlier in this chapter Froebel's plan of a manual-training school at Helba was summarized. This plan, which included the elements of nearly all later manual-training schemes, is important in its origin, and in its later realization in practice by Froebel's followers.

Froebel probably derived his scheme to a considerable degree from the writings of Professor Heusinger (1766–1837) of the University of Jena, who published in 1797 a book entitled "How to use the Child's Strong Impulse to Activity." Froebel's copies of Heusinger's works were among the most used in his library and were filled with penciled marginal comments. Heusinger planned to make the child's occupations the center for all school work, just as Froebel described.

Froebel one influential factor in a general movement. — Froebel's idea as outlined in the Helba plan was vigorously advocated in Germany by Baroness von Bülow and other of

his disciples. At the same time other leaders, independent of Froebel, were advocating the same type of education through manual work. Hence Froebel must be considered neither as the inventor of the scheme for manual training nor as the sole leader in stimulating its adoption, but rather as one among several leaders in a general movement. In this movement, however, his influence was particularly strong for two reasons: (1) the widespread establishment of his kindergartens tended to carry with it the idea of manual training for even older children; (2) the organization of one of the most imitated of manual-training systems, the Swedish sloyd, was partially due to his influence.

Economic basis of sloyd in Finland and Sweden. — The Swedish sloyd system of manual training is an outgrowth of the industrial and educational conditions of two countries, Finland and Sweden. It owes its educational organization largely to two men, Uno Cygnæus (1810–1888) and Otto Salomon, prominent educators of the two countries respectively. A brief sketch of the development of manual training in these two countries is contained in the following quotation:

> The first country where manual instruction was acknowledged as a branch of instruction with full rights in the primary [elementary] school, was Finland. The decree by which it was added as an obligatory subject to the course of training colleges and town and country schools throughout the principality of Finland, was issued in 1866. In the training colleges manual instruction comprises bench and metal work, wood-carving and basket-plaiting. The instruction is not given by artisans but by teachers. No competition with the various crafts is intended. The object is simply to impart a genuine manual dexterity to the scholars.
>
> Swedish sloyd, originating in a purely economic movement for the revival of domestic industry, afterwards assumed an educational character. Whilst the promoters of sloyd may have been influenced by the example of Finland, it would be going too far to assert that the Swedish system is a mere branch of the Finnish. The economic societies had long been advocating and supporting domestic industry, when in 1872 the Swedish parliament voted a sum for its furtherance, and at a later time considerably increased that amount. In 1877 it granted a special

subsidy for sloyd instruction to boys; whilst in 1881 the sum was much augmented. . . . From the regulations dated 11th September, 1877, we single out the following provision: "The instruction given must aim at producing not dexterity in any given craft, but manual dexterity generally, and ability to use the most familiar tools." Founded by August Abrahamson, and conducted by his nephew, Otto Salomon, the Sloyd Training School for Teachers at Nääs became the home of pedagogic sloyd. Its influence has extended far beyond the borders of Sweden to every civilized land, and its fame, with steady growth, has become world wide. (12: 212.)

Cygnæus derived educative principles of sloyd from Froebel. — Cygnæus is said to have acknowledged that he secured his ideas concerning manual instruction from a study of the writings of Pestalozzi and Froebel. His fundamental contention was that the active occupations of the kindergarten should be continued throughout the grades. In 1877 Salomon of Sweden visited Cygnæus and henceforth advocated in his own country the general system of manual training instead of the elementary trades which were characteristic of the earlier Swedish instruction.

Sloyd system of simple, useful, wooden articles. — As a practical system the Swedish sloyd plan organized by Salomon consists of several series of articles to be made, namely, a series for country schools, another for city elementary schools, and another for high schools. The different series have many models in common. Included among others are the following articles: a kindergarten pointer, a penholder, a pail handle, part of an oxbow, chopping board, flowerpot stand, ax handle, ladle, picture frame, coat stretcher, tool rack, bookstand, etc. The rules to be followed in selecting the models (articles to be made) are stated by Salomon as follows:

1. All articles of luxury should be excluded, and the models should have practical value.
2. The models should be such as can be finished by the pupils themselves.
3. They should be made entirely of wood.

4. As little material as possible should be used.
5. The work should not require polish.
6. The models should require little or no turning or carving.
7. They should develop the sense of form and beauty.
8. The construction of the series of models should require the use of all necessary tools, and the performance of the most important manipulations connected with woodwork. (**13**: 94.)

Value of sloyd stated in terms of formal discipline. — The educational results to be secured by such training were stated primarily in terms of formal discipline, that is, the training of general mental powers. The following quotation is typical:

> Primarily sloyd is to be used as a means of formal education — formal as opposed to material. A material education seeks to impart a definite knowledge of things for their own sake. A formal education seeks chiefly to develop the innate mental powers, and selects and imparts knowledge in order to strengthen character, will-power, memory, perception. . . .
>
> Sloyd has for its aims, as a means of formal instruction: to instill a love for work in general; to create a respect for rough, honest bodily labor; to develop self-reliance and independence; to train to habits of order, exactness, cleanliness, and neatness; to teach habits of attention, industry and perseverance; to promote the development of the physical powers; to train the eye to the sense of form, and to cultivate the dexterity of the hand. (**13**: 22.)

Manual training in the United States. *International expositions important stimuli to educational innovations.* — The manual-training movement in the United States was practically initiated by the foreign exhibits at the Philadelphia Centennial Exposition of 1876. Expositions have often been determining factors in initiating practical educational reforms. Thus in the London exposition of 1851 England was made aware of the superior workmanship and design in the industrial exhibits of France and immediately set out to establish schools for developing industrial art. The Paris exposition of 1867 and that of Philadelphia in 1876 taught similar lessons to various countries, including Germany and the United States. The immediate result was the emphasis on training in drawing

for industrial workers. Evening schools were opened as a means of providing this supplementary education. This was usually followed by the introduction of drawing into the public schools, where it owes its place largely to its relation to industrial design. Thus the law of 1870 passed by the Massachusetts legislature, requiring evening drawing schools to be established in all the large cities, and adding drawing to the regular course of study in the public schools, was in answer to a petition from the leading manufacturers of the state asking that some steps be taken to remove the lack of skilled designers, foremen, etc. Drawing has been an element in many schemes for industrial education and manual training.

Philadelphia exposition of 1876 initiated manual training in the United States. — The manual-training movement in the United States begins with the Philadelphia Exposition of 1876, and falls roughly into three periods: (1) the period of introduction, 1880–1890; (2) the period of general adoption, 1890–1905; (3) the period of criticism, 1905.

Manual training in high schools. Period of introduction, 1880–1890. — Soon after the Philadelphia Exposition of 1876 manual training found a place in higher and secondary education. While we are primarily interested in elementary schools we shall survey rapidly this development in the higher schools as a background for appreciating the development in elementary schools. The chief events are the following:

1. The Massachusetts Institute of Technology established in 1877 the pioneer imitation of the Russian scheme which President Runkle had seen exhibited at Philadelphia. This was a scheme of shop training devised primarily for those intending to become mechanical engineers, and included work with cast iron and wrought iron, machine-shop practice, and carpentry.

2. The first manual-training high school was opened in St. Louis in 1880, as a part of Washington University. The students pursued studies in the academy of the university.

The shop work was patterned after the Russian plan advocated by President Runkle, as was also the case in the other schools to be mentioned.

3. The first private manual-training high school established independent of a higher institution was the Chicago Manual Training High School opened in 1884 by the Commercial Club of Chicago after an agitation of several years.

4. The first public manual-training high school established in one of the larger American cities was the Polytechnic High School of Baltimore (1883). By the end of 1890 manual training was taught in the high schools of at least thirty-eight cities; in about a third of these places the institutions in which it was taught were known as manual-training high schools.

Rapid extension of manual-training high schools, 1890–1905. — The period from 1890 to 1905 was characterized by a rapid extension of high-school manual training. During the first eight years of this period it was adopted in at least sixty-three cities, and by 1905 was taught in approximately two hundred cities of over eight thousand population.

Recent tendencies to criticize high-school manual training. — In recent years there has been developed a strong tendency to criticize manual training as ordinarily provided. In some cases this criticism is made by those who believe most heartily in some form of constructive work. The criticisms assume two forms: (1) a demand for courses which, as phases of a general education, shall have more real educative value than the formal schemes of exercises that have prevailed in the past; (2) a demand for the substitution of special training for those intending to become industrial workers in place of the formal general courses that have existed.

Constructive work in elementary schools. — The early development of manual training in higher and secondary education, as we noted, was stimulated directly by the Philadelphia Exposition and was based on the Russian system. The development in the elementary schools took place during

the same period and was characterized by (1) an adoption of the kindergarten occupations as "busy work" in the primary grades, and (2) by experimentation to find a system of exercises adapted to the two highest grades.

Whittling and sloyd in the Boston grammar schools, 1871–1886. — One of the first important experiments with manual training in the upper grammar grades was in Boston. As early as 1871 a "whittling school" for a few boys was opened by private citizens. This was maintained for five seasons in the chapel of a church and then was merged with another private school. At the same time the Industrial Education Society was formed to maintain the work, which was carefully organized. One of the prominent leaders in this movement was Mrs. Quincy Shaw, who had also aided in establishing thirty-three kindergartens in and around Boston. In 1882 the movement secured the coöperation of the public-school authorities as set forth in the following quotation from Superintendent Seaver's report of that year:

> This Industrial School Association having for several seasons successfully conducted schools for instruction in the use of woodworking tools, and having prepared a manual of approved educational value, offered to the Board the use of the apparatus, and petitioned that the Master of the Dwight and Sherwin schools be permitted to employ these for the benefit of such of these pupils as would in their judgment be best fitted for instruction or most deserving of it. The Association offered to defray all expenses of the cost of tuition for the year. This generous offer was accepted by the Board. (15*a*: 42.)

In 1886 Mr. Larson was brought from Europe to introduce the methods of the Swedish sloyd, and he has been one of the most influential personal factors in popularizing that system in the United States. In 1889 a private sloyd normal school was established in Boston.

This was typical of a variety of experiments which were tried in and around Boston, and which resulted in securing a recognition of manual training in many public-school systems in New England.

The Froebelian Workingmen's School in New York, 1880.— Another significant example of the development of manual training in elementary schools was the establishment of the Workingmen's School, opened in New York City in 1880 by the Ethical Culture Society under the directorship of Felix Adler. This experiment was somewhat like the Helba plan of Froebel described on page 444. Its Froebelian character is shown in the following statement by Professor Adler:

> We are seeking to apply the principle which ought to be at the foundation of every modern scheme of education; namely, that as experiment conjoined with observation is necessary to the discovery of truth, so object-creating must supplement object-teaching, in that rediscovery of truths which it is the purpose of all education to facilitate. Therefore, work instruction is not a something outside the regular instruction; it is an organic part of the regular instruction. (**15*b***: 478, Vol. II.)

Hailmann's primary-school manual of kindergarten activities, 1887.— The extension of the kindergarten occupations into the primary grades led to the publication, in 1887, by W. W. Hailmann, then superintendent in La Porte, Indiana, of a book entitled "Primary Methods, a complete and methodical presentation of the use of kindergarten material in the work of the primary school, unfolding a systematic course of manual training in connection with arithmetic, geometry, drawing, and other school studies." Mr. Hailmann, who, as we have noted, was one of the leaders in the kindergarten movement, stated in the preface that the methods had been experimentally developed in the La Porte primary grades. Inasmuch as La Porte is not included in Mr. Ham's list of schools containing such work, given below, we must consider his list as typical rather than complete.

Representative list of American cities introducing manual training by 1890. — The following list of cities which introduced manual training into the public schools by 1890 was printed by Mr. C. H. Ham. (**14.**)

MANUAL TRAINING IN PUBLIC SCHOOLS

Primary Grades

Year of Establishment	City
1882	Montclair, N.J.
"	Jamestown, N.Y.
1884	Baltimore, Md.
1886	Washington, D.C.
"	Newburg, N.Y.
"	Tidioute, Pa.
1888	Oakland, Cal.
"	Springfield, Mass.
"	Concord, N.H.
"	Orange, N.J.
"	New York, N.Y.
1889	Union, N.J.
"	Vineland, N.J.
"	Westchester, Pa.
1890	Garfield, N.J.
"	South Orange, N.J.

Grammar Grades

Year of Establishment	City
1882	Montclair, N.J.
1883	Peru, Ill.
1884	New Haven, Conn.
"	Jamestown, N.Y.
"	Eau Claire, Wis.
1885	Waltham, Mass.
"	Rochester, N.Y.
"	Toledo, Ohio
1886	Washington, D.C.
"	Springfield, Mass.
"	Boston, Mass.
"	Newburg, N.Y.
"	Tidioute, Pa.
1887	Beardstown, Ill.
1888	Easton, Del.
"	Brookline, Mass.
"	Winchester, Mass.
"	Concord, N.H.
"	Hoboken, N.J.
"	Orange, N.J.
"	New York, N.Y.
"	Meadville, Pa.
1889	Wilmington, Del.
"	Davenport, Iowa
"	Vineland, N.J.
"	Union, N.J.
1890	St. Louis, Mo.
"	Duluth, Minn.
"	Passaic, N.J.
"	Garfield, N.J.
"	Paterson, N.J.
"	Ridgewood, N.J.
"	Knoxville, Tenn.
"	South Orange, N.J.

Thus by the end of 1890 there had been established in the city public-school systems of the United States, according to Mr. Ham, manual training in high schools in 38 cities; manual training in grammar grades in 34 cities; manual training in primary grades in 16 cities; kindergartens in 34 cities.

Phases of manual-training theory. — Briefly stated there have been the following elements involved in the theoretical considerations of what manual training should include:

1. The idea of a definite series of graded exercises:

(*a*) In the Russian plan the utility of the final product was subordinate, the teaching of the typical tool processes being fundamental; (*b*) in the Swedish sloyd, as we have seen, the utility of the product was emphasized.

2. The theory of formal discipline through manual work as stated in connection with the sloyd system on page 464.

3. The narrower idea of using kindergarten activities for "busy work" in the lower grades.

4. The arts-and-crafts idea of "honesty of material, solidity of construction, utility, adaptability to place, and æsthetic effect."

5. The idea that constructive activities as forms of expression (not as set exercises) are best suited to give the child an appreciation of industrial life and consequently of social life and of history.

This last theory approximates most closely Rousseau's idea of basing the study of social relations on industrial and economic conditions, but includes also Froebel's idea of social participation. Inasmuch as this theory is really much broader than "manual training" we shall discuss it under the following heading.

The broader Froebelian theory applied to elementary education by Colonel Parker and Dewey. *Colonel Parker an educational leader from 1875 to 1902.* — Colonel Francis W. Parker (1837–1902) has already been mentioned in connection with his exposition of Pestalozzian-Ritter geography, and his

scheme of concentration which was both Herbartian and Froebelian in theory. For twenty-seven years, from 1875 to 1902, Colonel Parker was one of the most prominent and aggressive champions of improved methods in elementary education in the United States. As a reformer of the schools of Quincy, Massachusetts, from 1874 to 1880; as supervisor in Boston (1880–1883); as Chautauqua lecturer to teachers (1881 on); as principal of the Cook County (Illinois) and Chicago Normal schools (1883–1899); as head of the Chicago Institute (for training teachers); and as a strenuous fighter in the National Educational Association and other teachers' organizations, Colonel Parker was the most influential personal factor during a quarter of a century in securing an adoption of the Froebelian theory in elementary-school work. While he instinctively, and from experience, tended to a belief in the Froebelian type of education, still he was doubtless influenced to a considerable degree by his studies at the University of Berlin during the two years following 1872 — a period during which there was active discussion in Europe of Froebelian educational theory and practice.

Colonel Parker said Froebel's principles should revolutionize all education. — In 1882 Colonel Parker made the following statement:

> Froebel said that the principles he discovered and advocated, when thoroughly applied, would revolutionize the world; and he was right. In the kindergarten is the seed corn and germination of the new education and the new life. . . . One and all the true principles of education are applied in the kindergarten; these principles should be applied (simply changing the application to adapt it to different stages of growth) through all education. . . . (16*a*: 159.)

The fundamental Froebelian principle which heads this chapter, namely, education through motor expression and social participation, was dominant in Colonel Parker's work. In his "Talks on Pedagogics" (1894) he showed the application of this principle especially to primary work.

Expression helps thought; thought necessary for expression. — In his discussion of motor expression he eliminated the elements of mechanical repetition and imitation which were dominant in the formalized kindergarten work and in the Swedish sloyd. In opposition to this formalism he made the two following points:

1. From the standpoint of training in thinking, he emphasized the stimulating and directing influence which is exerted on the child's thinking by his desire and his effort to find an adequate form of expression for his ideas and emotions; for example, a child's effort to draw a map makes him think more clearly about what the map represents.

2. From the standpoint of training in the conventional forms of expression, Colonel Parker emphasized the necessity of the child having a definite idea to express and himself making the connection between the idea and the appropriate form of expression. In short, he said (1) expression helps thought, and (2) thought is necessary for expression.

Training in all forms of expression necessary in elementary education. — The following quotations state at length Colonel Parker's emphasis on the use of all forms of expression:

> Expression may be generally defined as the manifestation of thought and emotion through the body by means of physical agents. The modes of expression are:
>
> | | | |
> |---|---|---|
> | (1) Gesture, | (4) Music, | (7) Painting, |
> | (2) Voice, | (5) Making, | (8) Drawing, |
> | (3) Speech, | (6) Modeling, | (9) Writing. |
>
> All works of man's hand and brain are the products of these forms of expression. . . . Language is by far the greatest outcome of thought and expression. . . . Next to language may be placed the tools and instruments which man has used through all the ages in manifesting his needs and his aspirations to others. Art products . . . may be placed next, followed by construction or building. (**16**: 224.)
>
> We must conclude that the use of all the modes of expression is an imperative necessity in all-sided growth, in the realization of the highest possibilities of manhood and character. (**16**: 252.)

The pedagogical value of training in all the modes of expression may be briefly stated:

1. The child's individual concepts are very simple and crude; it has no complex concepts.

2. The fundamental use of exercise in all the modes of expression is to intensify those individual concepts upon which analysis, comparison, classification, original inferences, and generalization depend.

3. Concepts are developed very slowly. The demand for expression should be adapted to the growth of concepts. Any attempt beyond this limit cripples mental action.

4. *The difficulties of technique or skill are very much overestimated.* The reasons for this overrating is that attempts are commonly made to make forms of expression without adequate motive and unimpelled by thought, forms that have no thought correspondence.

5. If, in the studies of the central subjects [content subjects], all the modes of expression are continually and skillfully used to intensify thought, every child would acquire proficiency in modeling, painting, and drawing. (**16**: 260.)

Colonel Parker carried out these ideas in practice in his schools. From his normal school they were carried by many trained teachers into other institutions, but in such cases the work often became isolated manipulation and lost the character of being a means of expression for ideas in the study of history, science, and geography.

Silent reading, speech, and oral reading should be distinguished. — In connection with the so-called language arts Colonel Parker distinguished between (1) speech, (2) silent reading, and (3) oral reading. Speech and oral reading he considered as forms of expression. Ordinary reading (silent reading), he said, is not a form of expression but a matter of attention.

Many of the grossest errors in teaching reading spring from confounding the two processes of attention and expression. Reading in itself is not expression any more than observation or hearing-language is expression. The custom of making oral reading the principal and almost the only means of teaching reading has led to the many errors prevalent to-day.

This same theory is expressed more extremely by the leading Canadian Froebelian, J. L. Hughes, in a little book called "Teaching to Read" (1909), in which he maintains that the ordinary method of teaching oral reading not only makes poor silent readers but at the same time makes poor oral readers and does not develop facility in speaking. The way to secure the three ends, he says, is to train in silent reading and in speech separately at first, and only after considerable facility has been acquired in each should oral reading be begun.

Colonel Parker also emphasized the social element in education very strongly, but as this point is most typical of Professor Dewey's work we will take it up in connection with the latter.

Dewey's ideas dominant in reconstructing contemporary educational theory. — In the last sixteen years (1895–1912) the educational writings and experiments of Professor John Dewey (1859——) have been the most influential factors in stimulating a general revision in educational theory in the United States. To a certain extent Dewey's principles of education are similar to those of Froebel, although not derived from the latter.

Professor Dewey (now at Columbia University) ranks very high among American professors of philosophy, and is commonly known as an exponent of "pragmatism." He is also well known as a constructive thinker along the lines of general psychological theory and social psychology. His educational principles are clearly applications to one type of social situation (the school) of the principles included in his scientific and philosophic systems. In view of this fact the similarity to Froebelian theory may be considered as largely coincidence rather than indebtedness.

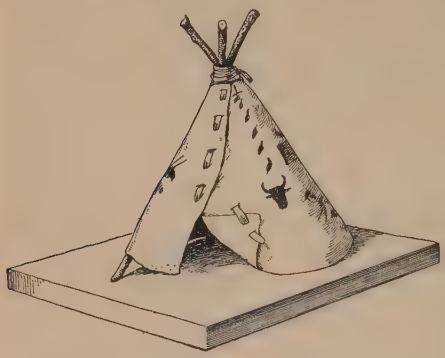
Dewey described similarity of his and Froebel's theories. — This similarity Dewey himself expressed in an account of the experimental school which he conducted at The University

of Chicago, beginning in 1896. This small school was similar in its plan to the experimental schools of Basedow, Pestalozzi, Herbart, and Froebel. The *Elementary School Record*, a series of nine monographs published in 1900, contains the best account of the work done in the school. In one of these Dewey wrote:

> One of the traditions of the school is of a visitor who, in its early days, called to see the kindergarten. On being told that the school had not as yet established one, she asked if there were not singing, drawing, manual training, plays and dramatizations, and attention to the children's social relations. When her questions were answered in the affirmative she remarked both triumphantly and indignantly that that was what she understood by a kindergarten, and she did not know what was meant by saying that the school had no kindergarten. The remark was perhaps justified in spirit, if not in letter. At all events, it suggests that in a certain sense the school endeavors throughout its whole course — now including children between four and thirteen — to carry into effect certain principles which Froebel was perhaps the first consciously to set forth. Speaking still in general, these principles are:
>
> 1. That the primary business of the school is to train children in coöperative and mutually helpful living. . . .
>
> 2. That the primary root of all educative activity is in the instinctive, impulsive attitudes and activities of the child, and not in the presentation and application of external material. . . .
>
> 3. That these individual tendencies and activities are organized and directed through the uses made of them in keeping up the coöperative living already spoken of, taking advantage of them to reproduce on the child's plane the typical doings and occupations of the larger, maturer society into which he is finally to go forth; and that it is through production and creative use that valuable knowledge is secured and clinched.
>
> So far as these statements correctly represent Froebel's educational philosophy, the school should be regarded as its exponent. (**17**: 142.)

Industrial activities fundamental for society and the school. — These quotations express the general similarity between Dewey's and Froebel's theories of education. It will be worth our while, however, to notice especially the way in which Dewey provides for the elements of social participation and motor expression, by making the study of industries

a most fundamental factor in the elementary curriculum. Coupled with Dewey's fundamental premise, that "the school cannot be a preparation for social life except as it reproduces the typical conditions of social life," is the fundamental idea in his social psychology that industrial activities are the most influential factors in determining the thought, the ideals, and the social organization of any people. If this is true, then, according to his first premise, industrial activities ought to have a large place in the work of the school, not for technical but for liberalizing purposes. A discussion of Dewey's social-psychological principle is contained in his article entitled "Interpretation of Savage Mind" (*Psychological Review*, 1902, Vol. IX, pp. 217–230). The practical consequences for the curriculum are described in many of Dewey's writings.



EXAMPLE OF HISTORICAL CONSTRUCTIVE WORK IN DEWEY'S ELEMENTARY SCHOOL, 1900

Reproduced by permission of the publishers from the *Elementary School Record*. (University of Chicago Press)

Industrial history a liberalizing study. — In the *Elementary School Record* the emphasis on the study of the history of industries, which Dewey would make an important element in the curriculum, is stated as follows:

> When history is conceived as dynamic, as moving, its economic and industrial aspects are emphasized. These are but technical terms which express the problem with which humanity is unceasingly engaged; how to live, how to master and use nature so as to make it tributary to the enrichment of human life. The great advances in civilization have come

through those manifestations of intelligence which have lifted man from his precarious subjection to nature, and revealed to him how he can make its forces coöperate with his own purposes. . . . The industrial history of man is not a materialistic or merely utilitarian affair. It is a matter of intelligence. Its record is the record of how man learned to think, to think to some effect, to transform the conditions of life so that life itself became a different thing. It is an ethical record as well; the account of the conditions which men have patiently wrought out to serve their ends. (17: 199.)

Dewey's "occupations" psychologically different from manual training.— On the psychological side, that is, on the side of method according to Dewey, the industrial-historical material is not to be treated as so many facts or principles to be learned, but the child is to carry on in miniature the industrial processes which he is studying. These activities which Dewey calls "occupations" are quite different in their "reality" from the kindergarten occupations. They are also different from the ordinary manual training with which Dewey contrasted them as follows:

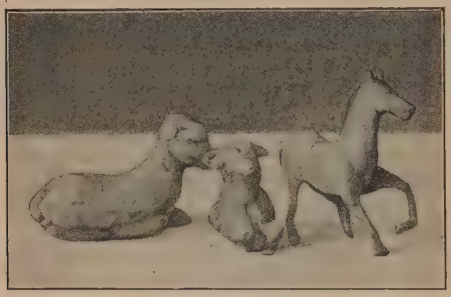
The fundamental point in the psychology of an occupation is that it maintains a balance between the intellectual and practical phases of experience. . . . It involves . . . continual planning and reflection, in order that the practical or executive side may be carried out. . . .

It is possible to carry on this type of work . . . so that the entire emphasis falls upon the manual or physical side. In such cases the work is reduced to a mere routine or custom and its educational value is lost. This is the inevitable tendency wherever, in manual training, for instance, the mastery of certain tools or the production of certain objects is made the primary end, and the child is not given, wherever possible, intellectual responsibility for selecting the materials and instruments that are most fit, and given an opportunity to think out his own model and plan of work, led to perceive his own errors, and find how to correct them — that is, of course, within the range of his capacities. (17: 82.)

It is interesting to note that Dewey's theory of training through occupations, involving motor activity and reasoning, is a reiteration of the theory formulated over a century before by

Rousseau. The same is true concerning his theory of making industrial activities the basis of a study of social relations.

Training in verbal expression based on real social communication. — Both Parker and Dewey maintain that superior training in expression, even in verbal expression, results from making the school a coöperative social situation. This follows, they claim, not only because of the connection between thought and expression, but because it takes advantage of the child's instinct of communication by providing a real audience-situation. Dewey says, "Language is primarily a social thing, a means by which we give our experiences to others and get theirs again in return." Hence the proper basis for a language training is (1) the child with some experience he desires to express, and (2) an audience that he feels is interested in learning of his experience. This basis, especially for oral composition, has been adopted in many places where other phases of Deweyism have no place.



TRAINING IN EXPRESSION IN DEWEY'S ELEMENTARY SCHOOL, 1900

Animals modeled in clay by children six years old. Reproduced by permission of the publishers from the *Elementary School Record.* (University of Chicago Press)

Artistic training to begin with crude original representation. — The pictures on pages 476 and 478 show how different Dewey's conception of training in motor expression as applied in the arts is from Froebel's. Pestalozzi and Froebel placed the emphasis on "forms of beauty" constructed in more or less mechanical ways. Parker and Dewey place the emphasis on the expression of ordinary experiences and the "courage to be crude."

Modern biological psychology emphasizes motor expression: William James. — A prominent factor in securing recognition of the principle of "education through doing" has been the "new psychology," of which the works of William James (1842–1910) are the best representatives in this country. His "Principles of Psychology" published in 1890, the "Briefer Course" which has been widely used as a textbook, and his "Talks to Teachers on Psychology" (1899) have influenced all ranks, from the most advanced scholar to the most immature normal-school student. In Chapter III of his "Talks," entitled The Child as a Behaving Organism, he says he will take the "biological point of view" that man is primarily a behaving organism. Further he says:

> It is impossible to disguise the fact that in the psychology of our own day the emphasis is transferred from the mind's purely rational function [that is, theoretical, abstract thinking] where Plato and Aristotle, and what one may call the whole classic tradition in philosophy has placed it, to the so long neglected practical side. The theory of evolution is mainly responsible for this. Man, we now have reason to believe, has been evolved from infra-human ancestors, in whom pure reason hardly existed, if at all, and whose mind, so far as it can have any function, would appear to have been an organ for adapting their movements to the impressions received from the environment, so as to escape the better from destruction. Consciousness would thus seem in the first instance to be nothing but a sort of super-added biological perfection — useless unless it prompted to conduct, and inexplicable apart from that consideration. (**19**: 23.)

In terms of this biological conception, education, according to James, becomes "the organization of acquired habits of conduct and tendencies to behavior."

Laboratory experiments show "no impression without expression." — This emphasis on behavior as the fundamental element in education receives further support from the psychological fact that there can be "no impression without correlative expression." This fact is determined not only by the biological theory stated above, but by actual laboratory

experiments which demonstrate that every change in the sensory stimuli (light, sounds, odors, etc.) which are affecting a person produces a corresponding change in his muscular adjustment. This change may be only a slight variation in the pulse or in the breathing, but some motor readjustment always occurs.

Difficult to make correct pedagogical inference. — Relatively unthinking pedagogs have seized upon the phrase "no impression without expression," and have assumed that it necessarily means that the schools must provide manual training, drawing, measuring, dramatization, and other forms of overt, evident, abundant physical movement. But the correct pedagogical inference from the facts mentioned is not so easily made as has commonly been assumed. In the first place, the motor reaction or expression is bound to take place whether education provides for it and takes account of it or does not. The child is constantly reacting; his physiological mechanism is such that he cannot help it.

Schools have always provided for motor expression. — In the second place, the schools have seldom taught by methods that did not explicitly provide for motor expression. As James said:

> The older pedagogic method of learning things by rote, and reciting them parrot-like in the schoolroom rested on the truth that a thing merely read or heard, and never verbally reproduced, contracts the weakest possible adhesion in the mind. Verbal recitation or reproduction is thus a highly important kind of reactive behavior on our impressions; and it is to be feared that, in the reaction against the old parrot-recitations as the beginning and end of instruction, the extreme value of verbal recitation as an element of complete training may nowadays be too much forgotten. (**19**: 34.)

Speech and inhibition fundamental in civilized activity: Thorndike. — The warning which James expressed has been reiterated by some of the younger educational psychologists. Thus Professor E. L. Thorndike (1874——) of Teachers College, Columbia University, says:

It is, however, important that certain corollaries of the relation of thought to movement should be emphasized. In the first place the muscular contractions involved in speech, facial expression, and eye movements, are from the point of view of mental progress the most important. The head is intellectually king even in the muscular system. Motor training which neglects speech leaves out a keystone. Constructive work which thinks of the hand oftener than the eye is ill-balanced. We can judge intellect and morals far better from observation of facial expression than from the entire gamut of hand and arm movements. . . . In the second place, muscular contraction, the expression of mental life, is not synonymous with movement. A great part of muscular activity serves to prevent movement. These inhibitory activities are indeed the ones most concerned in mental life. The mind may almost be said to be what the body does not do. Its lessons are lessons of control, guidance, restraint. . . . It literally requires more activity for a kindergarten child to listen than to sing, to sit still than to run. Inhibitory activities, though fatiguing and likely to be overemphasized by those of a puritanical or schoolmaster temperament, are highly educative. Their neglect means the "spoiled child" intellectually and morally. (**24**: 50.)

Central thought processes, not muscular movement, most significant: Judd. — A further development of the point of view and the warning expressed by James is contained in the recent work of Professor C. H. Judd (1873——), director of the School of Education of The University of Chicago. The problem which Judd discusses is one of the most advanced in contemporary psychology; hence the student reading this need not be discouraged if he does not understand the brief summary here presented. In his "Psychology" (1907) Judd emphasizes the importance, from a new point of view, of the ideational processes, that is, "the rational function of consciousness" (theoretical and abstract thought) which James said the biological conception had tended to subordinate in value to the practical. Judd says:

The purpose of this book may, therefore, be stated in terms which mark as sharp a contrast as possible with much that has been said and written of late regarding the advantage of what might be called a biological point of view in the study of consciousness. This work is intended to develop a point of view which shall include all that is given in the

biological doctrine of adaptation, while at the same time it passes beyond the biological doctrine to a more elaborate principle of indirect ideational adaptation. (**20**: vi.)

Thought and language the highest elements in human adaptive behavior. — Judd believes, as did James, that the development of consciousness in the process of evolution has been determined by variation, adaptation, and selection in relation to behavior, in the same way that bodily structures have been evolved. But, instead of maintaining that this shows the primary importance in man of the coarser and more direct motor adjustments that have characterized the lower stages of evolution, Judd points out the essential contrast between man and the lower animals as represented in the organization of their nervous systems. This difference consists in the superior development in man of large and intricately constructed parts of the brain, which make possible the higher mental processes that distinguish man from the lower animals, namely, such processes as speech, the thoughtful solution of complicated problems, etc. All of these processes may have their origin in the needs of practical adaptation or behavior, but the simple movements which constitute the motor response (such as signing one's name to an agreement or even constructing a wireless-telegraph instrument) are far outweighed in importance by the organized thought which has planned or preceded the movements. In this organized thought, language, according to Judd, is a far more important instrument than the forms of expression used in the arts and industries. As compared with language, most of the other forms of expression which Colonel Parker enumerated are relatively unimportant instruments in the thinking of civilized people. Hence, from the standpoint of the organization of the central nervous system, according to Judd, we get the same justification for an emphasis on verbal expression that was stated by James and Thorndike in the quotations given above.

But even though language is so important in human thinking, it does not follow that the mechanical acquisition of language such as prevailed in the traditional school is justified by Judd's theory. Rather, it would seem, should emphasis be placed on a complete development of the organizing thought processes, which come between the sensory stimulus and the muscular response. If this is done, there results the same emphasis on the "reconstruction of experience," that is, the child reorganizing the material in his own mind before expressing the thought to others, as Dewey advocates.

Important distinction between motor expression and manual skill. — The careful statements by such eminent psychologists as James, Thorndike, and Judd, concerning the relations that exist between thought and the various forms of motor expression, stand in sharp contrast to the hasty conclusions of relatively unthinking educators who have been carried away by the phrase "no impression without expression." The latter have commonly failed to distinguish between manual skill, which is important in carrying on industrial and artistic processes, on the one hand, and the use of manual activities as a means of expressing thought on the other hand. For this latter purpose the psychologists mentioned above rate language as most important. If this is a true estimate, educators should not measure the value of the other forms of motor activity primarily on the basis of the psychological theory of "no impression without expression," but should endeavor to justify these activities by their other social values which can be readily established.

Froebelian social point of view prominent to-day. — The Froebelian principle of education through motor expression and social participation has been shown by this discussion to play a prominent part in the most recent reform tendencies in elementary education. It appears as the basis of kindergarten training and as a large factor in the manual-training movement. As applied in the elementary school it is changing

the methods of training in expression and is developing a very conscious social point of view for judging all educational problems. While this general point of view is antithetical to the nonsocial view of education taken by Rousseau, it will be instructive to turn back to page 206 and see how many of the reforms in methods which have been traced in the last six chapters were stated in the summary of Rousseau's principles. Especial attention should be given to his suggestion of the industrial approach to the study of social relations, which is one of the most notable elements in the modern social conception of education.

BIBLIOGRAPHICAL NOTES

Concerning Froebelian theory in relation to Rousseau and Pestalozzi. — 1. FROEBEL, F. *The Education of Man.* (D. Appleton and Company, trans. by Hailmann.) This is the best source. In reading this book it is well to try to disregard the extreme symbolic-religious elements and compare its more practical recommendations with similar ones in Rousseau's "Émile."

2. FROEBEL, F. *Autobiography.* (In Barnard. See below, No. 7.)

3. FROEBEL, F. *On Pestalozzi.* (In Barnard, p. 49. See below.) These two accounts (Nos. 2 and 3) give clear insight into Froebel's peculiar temperament and show his direct connection with Pestalozzi.

4. FROEBEL, F. *Pedagogics of the Kindergarten.* (D. Appleton and Company, 1897.)

5. FROEBEL, F. *The Mottoes and Commentaries of Froebel's Mother Play.* (D. Appleton and Company, 1898.) These two references (Nos. 4 and 5) may be examined, but they do not furnish nearly as much valuable historical material as the previous ones.

6. MARENHOLZ-BÜLOW, BARONESS. *Reminiscences of Friedrich Froebel.* (Lothrop, Lee & Shepard, 1897.) An account of an intimate association with Froebel during the last twelve years of his life. Very helpful in getting an understanding of Froebel's later work and his relation to German Pestalozzianism.

Histories of the Kindergarten Movement. — 7. BARNARD, H. *Kindergarten and Child Culture.* (C. W. Bardeen, Syracuse, 1890.) The most useful single volume on Froebel, containing everything from his

autobiography to the early development in the United States. This is not so easily obtained, however, as is No. 8.

8. Bowen, H. C. *Froebel and Education through Self-Activity.* (Charles Scribner's Sons, Great Educator Series, 1893.) The best interpretative historical account. It should be supplemented for Germany by No. 9.

9. Franks, F. *The Kindergarten System, its Origin and Development.* (Adapted from the German of Hanschmann.) (Sonnenschein, 1897.)

10. Vandewalker, Nina C. *The Kindergarten in American Education.* (The Macmillan Company, 1908.) A thoroughgoing historical account.

11. Harris, William T. Early History of the Kindergarten in St. Louis, *United States Commissioner of Education Report*, 1896–1897. Vol. I, pp. 899–922. A reprint from the St. Louis reports. Very valuable and easily obtained.

Concerning the History of Manual Training. — 12. Goetze, W. *Hand and Eye Training.* (Newman, London, n. d.) Chaps. iv, v, ix, and x are historical.

13. Hoffman, B. B. *The Sloyd System.* (American Book Company, 1892.) Pp. 53–91 contain a historical account by Salomon. Pp. 235–242 are also historical.

14. Ham, C. H, *Mind and Hand.* (American Book Company, 1900.) Discussion by one of the leading opponents of manual training. Chaps. xxvi and xxvii are especially good on the history of manual training in the higher institutions of the United States. Statistical historical tables included.

15. McArthur, A. *Education in its Relation to Manual Industry.* (D. Appleton and Company, 1884.) Contains material concerning the relation between industrial development and drawing and industrial education before the eighties.

15*a*. Jessup, W. A. *Social Factors affecting Special Supervision in the Public Schools of the United States.* (Teachers College, New York, 1911.) Chap. iv.

15*b*. Clark, I. E. *Art and Industry.* (United States Bureau of Education, 1885–1889.) Vols. I and II are full of information concerning the early development of drawing and manual training in the United States. See also reports of United States Commissioner of Education from 1877 on, under Commissioner's Summary.

Other works referred to in the chapter. — 16. Parker, F. W. *Talks on Pedagogics.* (Kellogg, 1894.)

16*a*. Parker, F. W. *Talks on Teaching.* (Kellogg, 1891.)

17. *Elementary School Record.* (The University of Chicago Press, 1900.)

18. THORNDIKE, E. L. *Notes on Child Study.* (The Macmillan Company, 1903.)

19. JAMES, W. *Talks to Teachers.* (Henry Holt and Company, 1902.)

20. JUDD, C. H. *Psychology.* (Charles Scribner's Sons, 1907.)

21. HUGHES, J. *Teaching to read.* (The A. S. Barnes Co., 1909.)

22. DAVIDSON, T. *Rousseau and Education according to Nature.* (Charles Scribner's Sons, 1907.)

23. HEINEMANN, A. H. *Letters of Froebel.* (Lothrop, Lee & Shepard Co., 1893.)

24. *Teachers' College Record.* Vol. IV, 1903.

25. HARRIS, WILLIAM T. *Report of the Superintendent of Schools,* St. Louis, Mo., 1878–1879.

CHAPTER XIX

CONCLUSION; PRESENT TENDENCIES

Summary of development from 1300 to 1900. *The religious basis of elementary education.* — In the preceding chapters we traced the development of elementary education from the Middle Ages to the present time. We noted that the first important elementary vernacular schools to develop in Western Europe among the Germanic peoples were those established in the commercial cities toward the close of the Middle Ages. At that time there were practically no such schools in the villages and rural districts. The Protestant Reformation established a theoretical basis for universal vernacular education, namely, the necessity of reading the Bible for religious salvation; but it was only in the exceptionally favored cases, such as Puritan Massachusetts and a few of the smaller German states, that effective elementary schools were early developed on this basis. In general, vernacular schools were mere makeshifts down to the beginning of the nineteenth century, usually teaching children only the catechism and the bare elements of reading and writing.

Secular tendencies culminating in Rousseau's "Émile." — During the seventeenth and eighteenth centuries secular interests developed and gradually overthrew the ecclesiastical control which had dominated life and education for so many centuries. The most important educational expression of these tendencies was Rousseau's "Émile," published in 1762. The "Émile" served as a spark to start an educational revolution which soon developed an entirely secular basis for elementary education. The elementary schools were first secularized on

a large scale in Prussia. In England the struggle for complete secularization is still going on. In the United States most of the states had developed secular-school systems by the middle of the nineteenth century.

Methods of secularized elementary school developed by Pestalozzi and followers. — Rousseau's suggestions for reforms in the curriculum and methods of elementary education were taken up by Pestalozzi. The experiments of Pestalozzi during the first quarter of the nineteenth century developed the oral and objective methods in the teaching of elementary science, home geography, and primary arithmetic, and the synthetic methods of teaching reading, writing, and drawing, which were dominant in elementary schools during the nineteenth century. Pestalozzi neglected history and literature, however, and the organization of these subjects in the elementary curriculum was especially emphasized by Herbart and his followers, who also emphasized the educational value of interest, apperception, correlation, and the systematic organization of units of instruction. It remained for Froebel, an intimate disciple of Pestalozzi, to emphasize the motor processes involved in manual training and other forms of expression, and the importance of the social experiences of children while in school, as educative factors. These factors have found practical application in the kindergarten, and their application in other parts of the elementary school is now being considered and tested.

Greatest change in elementary education during nineteenth century. — The development or change in elementary education represented in the foregoing summary is enormous. It seems even greater when we consider that most of the actual changes took place during the nineteenth century. From 1500 to 1800 the elementary school changed very little. Its curriculum was so narrow, its equipment so meager, its teachers so poorly prepared, and its methods so wasteful, that children of good elementary schools of the present day could

learn in two or three years all that was accomplished in the eighteenth century in the whole elementary school course.

Recent tendencies: *vocational; civic; individual; scientific.* — But if the development during the nineteenth century was so great, the development in the near future promises to be equally so. From the mass of discussions and experiments that are being conducted it is difficult to select those that are most significant, but attention is called to the following as being especially noteworthy:

1. The introduction into the elementary school of industrial and prevocational courses organized as definite preparation for specific vocations.

2. The endeavor to organize effective moral and civic instruction.

3. The provision made for varying instruction so as to meet the varying needs of pupils that are due to individual differences in capacities, in economic status, and in plans for a career.

4. The tendency to measure accurately the results of instruction by precise, objective, scientific methods as a means of testing its value, instead of relying on the vague and unproved opinions of theorists or of untrained observers.

All of these factors have been topics of active discussion in the last decade (1901–1912) and will probably be effectively provided for in the ordinary elementary schools in the next quarter of a century.

INDEX

Act of Uniformity, 124
Activity. See *Motor expression*
Adler, Felix, 468
Aim of education, Herbart's, 388
Albigenses, 37
Allgemeine Landrecht of Prussia, 223
Alsted, 138
American state school systems, Chap. XII, 240–271. (New York City, Pennsylvania, Massachusetts, and Indiana as typical. See each of these)
Apperception, Herbart's discussion of, 395–397
Aristocratic formalism. See *Formalism, aristocratic*
Aristotle and medieval science, 111
Arithmetic, in colonial schools, 83; colonial methods, 90; simultaneous method of La Salle, 100; Pestalozzi's sense-perception basis, 325; development of Pestalozzian primary methods, 349–356; Pestalozzi largely the founder of primary arithmetic, 350; emphasis on mental arithmetic and objective methods, 350; popularized in the United States by Warren Colburn's book, 353–356
Art, neglected by Puritans, 68
Ascham, Roger, Latin secretary of Queen Elizabeth, 20
Attention, Herbart's discussion, 394–398

Bache, report on education in Europe, 299
Bacon, Francis, had books translated into Latin, 20; popularized idea of observation and experimentation, 118; his method not that of modern science, 118; contrasted with Voltaire, 123; praised by Comenius, 139
Baltimore Polytechnic High School, 466
Baptist church shared public funds in New York City, 244
Barnard, Henry, described Pestalozzian methods, 298; praised Griscom's book, 299; published "National Education in Europe," 300; summarized movement for industrial education of juvenile delinquents, 305, 316, 318; gave list of American textbooks, 410; described European kindergartens, 454
Basedow, agitated reforms in German education, 209–212; appealed for subscriptions, 210; his Philanthropinum, 211; mentioned, 153, 159, 181, 182, 186, 206, 208, 209, 215, 221, 224, 270, 349
Battersea Training School, 317
Bayle, "Practice of Piety," 67
Bell, Andrew, 95, 101, 230
Bentham, Jeremy, 233
Bible, vernacular, fundamental for Protestants, accessory for Catholics, 42–46; circulation of English, 43–45; Luther on, 44; Calvin on, 45; Luther's translation, 48; as a textbook, 72; aims of education based on, by Comenius, 140; in English law of 1870, 238, 487
Bibliography, for medieval education, 31; for the Reformation, 64; for methods and curriculum before 1800, 93; for schools of Christian Brethren and Lancaster, 107; for secular interests, 134; for Comenius and Locke, 159; for the emotional reaction, 180; for Rousseau's "Émile," 207; for Prussian schools, 224; for English schools, 239; for American schools, 271; for Lancasterian schools, 272; for the

Pestalozzian movement, 303; for Pestalozzian industrial education, 321; for Pestalozzian object teaching, 356; for Pestalozzian formalism, 374; for the Herbartians, 429; for the Froebelians, 484
Bingham, Caleb, 91, 415, 416
Blackboards, seldom used in colonial schools, 92
Blackstone, W., 233
Blow, Susan, 456
Bodemer, J. J., 282
Bologna, University of, 15
Boston, elementary schools in 1800, 85–88, 254; manual training in schools, 467
Boucher, 158
Bourne, 411
Boyle, 114
Breslau, medieval city schools, 28
Brethren of the Christian Schools, 95–100; organized to maintain charity schools, 96; provided trained teachers, 96; organized by La Salle, 97; laymen pledged to teaching, 98; used simultaneous method, 99, 327
Brethren of the Common Life, 43
Briggs, 113
Brinsley, "The Grammar Schoole," 79
British and Foreign School Society, 230
Bülow, Baroness von, 452, 461
Burgdorf, Pestalozzi's schools at, 286–289, 326, 356
Buss, 288
Byron, 179

Calkins, N. A., "Primary Object Lessons," 368
Calvin, general influence, 38; career, 39–40; argument for the Bible, 45; ideals influential in Massachusetts, 58, 67
Calvinism, decline of, in Massachusetts, 251
Calvinistic repression of children's activities and emotions, 162
Campe, 159; prepared children's books, 408
Carpenter, Mary, criticized American reformatories, 319
Carter, James G., 257
Catechism, most important part of primers, 76
Catholic Church, became dominant in Europe, 10; established schools, 11; monopoly of education, 25; encouraged schools, 34; Reformation in, 36; attitude toward the Bible, 42–44; improved education, 95; ceremonialism and skepticism in eighteenth century, 163; orphan asylum granted public funds in New York City, 245; appealed for funds for schools in New York City, 245
Caxton, printing press, 47
Chantries Acts, 53
Chantry schools, definition, 15; suppressed in England, 53
Charles I of England, 41, 42
Charles II of England, 124
Chicago Manual Training High School, 466
Children, activities as basis of education, Locke, 155–158; repressed by Puritans, 162; neglected by French aristocracy, 168–172; their maturing the basis of education, Rousseau, Chap. IX, 181–207
Christian Brethren. See *Brethren of Christian Schools*
Church, and education in Middle Ages, 5–15; controlled secular affairs, 110; controlled education in England, 227–228. See also *Catholic Church*, *Reformation*, *Religion*, *Religious*
Circulation of the blood, hypothesis of Harvey, 116
Cities, development of medieval, 24–25; conflicts of, with Church, 25; established Latin schools, 26; vernacular schools in, 28–31; social problems in American, about 1800, 264; Lancasterian system adopted in American, 265; list of those introducing manual training, 469
Classroom management, improvement by La Salle, 95–100; improvement by Lancaster, 101–107
Clinton, De Witt, enthusiasm for Lancasterian schools, 265, 267
Clinton, George, 242

Colburn, Warren, "First Lessons in Arithmetic on the Plan of Pestalozzi," 353–356; emphasized "number ideas," 354; used no ciphering at first, 355; made rapid calculators, 355, 369; formulated principles of analytic induction, 398
Colet, Dean, favored Catholic Reformation, 36
Cologne, medieval city schools in, 26
Colonial education, American, 55–63; laws concerning industrial phases of, 306–308
Comenius, theory of universal, encyclopedic, vernacular education, 136–148; career, 136; three dominant interests, 138; planned encyclopedia, 138; encyclopedic aim, 140; aim of rational development, 141; stages in education, 142; principles of method, 143; "Great Didactic," 144; famous Latin textbooks, 145; "Orbis Pictus," 146; little immediate influence, 148; mentioned, 182, 193, 211
Committee of Fifteen, Report of, on teaching history, 412; on use of literature, 418; on correlation, 420
Committee of Seven, on the teaching of history, 412
Committee of Ten, on the teaching of history, 412
Common school revival, 241; in Massachusetts, 256–259
Common schools. See *Elementary schools*
Commonwealth, English Puritan, 42, 67; prohibited former primers, 74
Compulsory attendance, in Prussia, 219; in England, 237, 238
Concentration. See *Correlation*
Condillac, 173
Conflicts of town and church authorities, 25
Connecticut, Lancasterian system advocated for, 267
Coöperation. See *Social participation*
Coote's "English Schoolmaster," 54, 78–80
Copernicus, 113, 118
Correlation, advocated by Herbart for moral ends, 401; through concentration, advocated by Ziller, 419; in America, 420
Cottage plan for reformatories, 306; tardy adoption in America, 319
Cousin, Victor, translation of report on Prussian schools, 299
Culture-epochs theory, use of, by Herbartians and others, 422–425; seldom used consistently, 423; criticisms of, 424
Curriculum, of Reformation elementary schools, 66–93; dominated by religious traditions, 66; influenced by narrow views of Puritans, 67–72; narrow scope of colonial, 84; Peter Parley and Webster concerning colonial, 84; in Boston in 1800, 86–88; in Germany in eighteenth century, 88; in Swiss school in 1800, 89; Comenius included economics, science, and history, 142; practical innovations in Gotha, 149; Froebel's, 436; industries, history, and art in Dewey's, 475–478. See also *Arithmetic*, *Drawing*, *Geography*, *History*, *Literature*, *Nature study*, *Object teaching*, *Reading*, *Science*
Cygnæus, founder of sloyd, 462–463

D'Alembert, 173
Dame schools, in England, 54; a factor in decline of Massachusetts schools, 254
Dancing-master education. See *Formalism*, *aristocratic*
Davidson, T., 174, 176, 179, 440
De Garmo, C., 404, 407, 425
Degenerate object teaching, 359–364
Democracy, as a secularizing force, 130–133; English revolution of 1688 as an example of, 130; represented by Rousseau and French Revolution, 131; American Revolution, as an example of, 132; and universal education, 133
"Dendro-Psychoses," 423
Descartes, 113

Development of faculties, four meanings of Pestalozzian phrase, 276–279
Dewey, John, criticized Grube method, 370; on inconsistency of Herbart's pedagogy and metaphysics, 380; on culture-epochs theory, 424; criticism of Froebelian symbolism, 458; reconstruction of contemporary educational theory, 474–478; theories similar to Froebel's, 474; industrial history a liberalizing study, 476; occupations, 477; mentioned, 181, 203, 205, 206, 336
Dickens, Charles, satirized memorizing of Mayo lessons, 363
Diderot, 123, 173
Diesterweg, on Pestalozzi, 295
Dilworth's speller, popular in the colonies, 80
Discipline, Pestalozzi advocated strict but kindly, 279
Discipline, formal. See *Formal discipline*
District schools, degenerate system in Massachusetts, 250–259
Drawing, in Rousseau's "Émile," 194; Spencer criticized Pestalozzian synthetic method in, 368; Froebelian methods in, 478
Dutch Church established schools, 61

Edgeworth, Maria, 414
Edict of Nantes, 124
"Education of Man," Froebel's, 434
Edward VI, 41
Eisleben, Protestant school at, 50
Elementary schools, meaning, 1–3; retarded in Middle Ages, Chap. II, 4–32; not developed by oral vernacular literature, 23; developed by commercial demands, 24; established by medieval cities, 28–31; not in medieval villages, 31; on religious basis following Reformation, 33–63; subordinate to Protestant Latin schools in Germany, 50–52; after English Reformation, 53; in colonial Massachusetts and Pennsylvania, 55–63; broad curriculum proposed by Comenius for, 141–143
Eliot, C. W., on waste in elementary schools, 417; recommended literature in place of readers, 418
Eliot, George, 179
Elizabeth, Queen, 41, 125
"Émile," Rousseau's, 181–207; inspiration of nineteenth-century reforms, 182; review of criticisms of, 183–185; brought children into style, 184; influence on practice emphasized, 186; written as a work on child study, 187; periods in the maturing of children described, 188–191; religious instinct discussed, 190; walking instinct discussed, 191; physical activity emphasized, 191; sense perception declared to be fundamental, 193; drawing from nature advocated, 194; maturing of children's capacities for reasoning and memorizing described, 195–197; training in scientific investigation advocated, 198–201; motives furnished by interest, curiosity, and utility, 201; "Robinson Crusoe" praised, 202; industrial basis of social studies discussed, 203; many-sided maturing advocated, 204; opposed examinable results, 204; revolutionary character and validity of, 205; summary of principles discussed in, 206; stimulated German reforms, 209; inspired Pestalozzi, 273–275; mentioned, 135, 136, 151, 171, 174, 175, 176, 177, 270, 283. See also *Rousseau, Emotional reaction*
Emotional reaction, Chap. VIII, 161–180; supplemented other secular movements, 161; opposed religious and aristocratic formalism, 162–180; Rousseau as leader of, 172–180
Encyclopedia, French, spread scientific spirit, 123
England, growth of medieval cities in, 24–25; Reformation in, 39–42; Protestant schools in, 52–55; towns in, provided schools, 56; scientific developments in, 121; religious

toleration in, 124; strong government, 125; democratic Revolution of 1688, 130; formalized Pestalozzianism adopted in, 295–296; the Mayos introduced objective methods in, 296; Infant School Society established in, 296; industrial education of apprentices, 307; Pestalozzian primary arithmetic in, 353, 488
English education, secularizing tendencies, Chap. XI, 226–239; public schools retarded, 227; schools for poor provided by voluntary agencies, 229; development of public sentiment for secular schools, 233; Parliamentary acts affecting, 237
English language and literature, study of, retarded by Latin and French in Middle Ages, 18–23; circulation of English Bible, 43–45; Puritan ascetic ideals in, 67
Episcopal or Cathedral schools, 8, 14
Equipment of schoolroom, poor in colonial period, 91–92; improved by Lancaster, 106
Erasmus, 20; favored Catholic Reformation, 36; favored reading of Bible, 44
Ernest the Pious, educational reforms in Gotha, 149
Examination standards, opposed by Rousseau, 204
Excursions, in Salzmann's school, 214
Experimental search for methods by Pestalozzi, 280
Expositions stimulate educational innovations, 464
Expression. See *Motor expression*

Factory children, Parliament regulated education of, in 1802, 235
Factory system, developed new political forces in England, 234; relation to Pestalozzian industrial education, 308
Fellenberg, Emanuel, his Pestalozzian institutions, 313–316; active in Swiss social reforms, 313; his Hofwyl institutions, 314; plans of, generally adopted in Europe, 316; plans of, popularized in America for higher education, 317; plans of, tardily adopted in American reformatories, 318–321; mentioned, 284, 289, 291, 298, 304, 305
Fichte, 179; stimulated Prussian interest in Pestalozzi, 294
Fichte, J. H. von, praised Herbart's "Outlines," 381
Finland, sloyd in, 462
Form study, in books of Calkins and Mayo, 368
Formal discipline, value of sloyd in terms of, 462; Pestalozzian theory of, 278–279; Herbart's criticism of, 390
Formal steps of instruction. See *Method, general*
Formalism, aristocratic, in France in eighteenth century, 164–172; developed from idle life of the nobility, 166; led to barrenness and artificiality, 169; dancing master, the most important factor in, 170; copied in other countries, 171
Formalism, religious, 162–164; Calvinistic repression of children's activities, 162; Catholic ceremonialism in France, 163
Formalism, three types of, 360. See *Pestalozzian formalism*
Fowle, W. B., description of Boston schools in 1800, 87
France, Voltaire popularized English scientific thought in, 121–123; Encyclopedia spread scientific spirit in, 123; religious toleration in, 124; strong government of Louis XIV in, 126; aristocratic and religious formalism in social life of, 163–171
Frederick the Great, 127, 128, 209, 210, 218, 219, 221, 222, 223
Frederick William I of Prussia, 117, 210, 218, 219
Free School Society of New York City, 243, 248
French language used in England after the Conquest, 21
Froebel, and education through motor expression and social

participation, 432–454; career and character, 433–436; educational theory, 436–447; symbolism, 439; motor expression, 441; social participation, 445; kindergarten, 447–454; mentioned, 181, 185, 186, 205, 206, 270, 292, 488
Froebelians, Chap. XVIII, 431–486
Frye, Alexis, geographies, 349
Fürstenschulen, 166

Galen, 112, 116
Galileo, 113, 114, 118
General method. See *Method, general*
Geography, not in colonial elementary schools, 85; home geography in Rousseau's "Émile," 200; Pestalozzi's lesson in, on the Buron valley, 326; Pestalozzian-Ritter type, 340–349; dictionary-encyclopedic type, 341; science of, created by Ritter, 343; Pestalozzian-Ritter type in the United States, 347–349
German cities. See *Cities*
German literature, revival stimulated by Prussian achievements, 129
Germany, medieval schools in, 26–31; Reformation in, 38; Protestant schools in, 49–52; elementary-school curriculum in eighteenth century, 88; religious toleration, 125; educational reforms in seventeenth century, 149; development of Prussia, 126–129; Rousseau's influence in, 179; Prussian school system, 217–224; Pestalozzi's influence in, 291–295; development of Herbartian movement in, 403
Gifts, Froebelian, 450
Goethe, 179, 384, 385, 386, 438
Goldsmith, Oliver, 414
Goodrich, C. S., published history of the United States, 410
Goodrich, S. G. (Peter Parley), geographies, 341; books for children, 410; description of schools he attended, 85
Gotha, educational reforms in seventeenth century in, 149
Governments, strong centralized, as rivals of ecclesiastical powers, 125–129
Grammar, not generally taught in colonial elementary schools, 85
"Great Didactic" of Comenius, 144
Green, in "Short History of the English People" mentions the English Bibles, 45
Greenwood's arithmetic, 84
Griscom, John, advocated and used Lancasterian system, 268; diffused knowledge of Pestalozzianism, 299
Grube method in arithmetic, 356, 369–371
Gruener, 292, 434
Guild schools, 14
Guts Muths, 212, 344, 345, 346
Guyot, Arnold, developed Pestalozzian-Ritter geography in America, 343, 347–349; mentioned, 206

Hailmann, W. W., advocated kindergartens, 455, 456; manual of kindergarten activities, 468
Hall, G. Stanley, advocates recapitulation theory, 423
Ham, C. H., 468
Hamburg, medieval city schools, 28
Harris, W. T., on value of oral instruction, 328; organized science instruction in St. Louis in 1870, 333–338; emphasized scientific classifications, 334; on practical value of science, 336; advocated and established kindergartens in St. Louis, 455–457
Harvey, advanced hypothesis of circulation of the blood, 116
Hayward, F. H., 380
Helba plan, Froebel's, 444; derived from Heusinger's writings, 461
Henry IV of France, and the edict of Nantes, 124
Henry VIII, political motives in the Reformation, 40
Herbart, J. F., career and theories, 376–402; influenced by Pestalozzi, 292, 376; academic career, 378; his metaphysics a useless encumbrance to his pedagogy,

379–382; influenced by new humanism, 382–387; virtue and abiding interests as aims, 388–391; subject matter analyzed in terms of interests, 391–393; use of present interests of the child, 393; apperception, 395; general method, 398–401; correlation, 401; mentioned, 181, 186, 205, 206, 270, 292, 371, 432, 433, 450, 488
Herbartian movement, 375–429; continued Pestalozzian movement, 376; Herbart's part in, 376–403; in Germany and the United States, 403–405; practical aspects of, 405–429; emphasized use of historical and literary materials in Germany and America, 405–419; correlation in, 419–421; culture-epochs theory in, 422–425; the five formal steps in, 425–428
Heusinger, scheme for manual training, 461
History, place in colonial schools, 85; neglected by Pestalozzians, 376; humanistic aim of historical studies, 393; in German schools during nineteenth century, 405–407; Ziller's course of study in, 407–409; in American elementary schools, 409–413; broader conception of teaching of, since 1890, 411; reports of committees on, 411; Spencer and the Herbartians on social aspects of, 413; industrial aspects of, in Dewey's school, 476
Home, instruction in, in England, 54; to be reproduced in school according to Pestalozzi, 279, 311; to be reproduced in reformatories, 305; and school according to Froebel, 437
Home and Colonial Infant School Society, organized, 296; methods adopted at Oswego, 300; methods satirized by Dickens, 364; mentioned, 447
Hornbook, 73
House of Refuge, in New York City, 265, 268, 318; general establishment of, 319
Hudson, W. H., 177
Hughes, J. L., on teaching reading, 474
Humanism, new, influenced Herbart, 382–387; contrasted with Renaissance, 383; developed from German nationalism, 384; Herbart participated in, at Jena, 385
Humboldt, Alexander von, work on South America influenced Ritter, 343, 346
Huss, John, 38
Huxley, on lack of practical influence of seventeenth-century science, 117; on Bacon's method, 119
Hydro-Psychoses, 423
Hypothesis. See *Science*

Indiana, development of school system in, 242, 259–263; liberal constitutional provision for schools in 1816, 259; free schools not developed for thirty years, 260; campaign by Caleb Mills, 261; local tax made optional in 1849, 262
Individual instruction, 90, 100
Inductive method. See *Science*
Industrial activities in Dewey's curriculum, 475
Industrial basis of social studies in the "Émile," 203
Industrial education. See *Pestalozzian industrial education*, *Manual training*
Industrial training to begin in the kindergarten, 457
Interest, Rousseau's use of, as motive, 201; many-sided abiding interests as Herbart's aim of education, 388; an active reaching out, 389; comparison of theories of Herbart, Rousseau, and Pestalozzi, 390; subject matter analyzed in terms of, by Herbart, 391–393; Herbart used child's present interests but opposed "sugar coating," 393–395, 397

James I, 41
James II, 125
James, William, criticism of proceeding from simple to complex, 371; emphasized motor expression, 479–480, 481, 482

Janeway, James, "A Looking Glass for Children," 163
"Janua" of Comenius, 145
Jefferson, Thomas, 133
Jena, Prussian defeat, 292; Herbart participated in new humanism at, 385; Herbartian practice school at, 403; Froebel's studies at, 434
Jesuits, propagated Catholic Reformation, 36
Judd, C. H., on motor expression, 481–483

Kant, 179
Kepler, 113, 114, 118
Kiepert, 343, 349
Kindergarten, established by Froebel, 435, 447–454; organized children's games, 448–452; conceived as a miniature society, 452–454; in the United States, 454–457; modification of Froebelian theory, 457–460
Kleist, 282
Klopstock, 282
Kruesi, Herman, 288, 291
Kruesi, Herman, Jr., 296, 301

Lancashire Public School Association, 236
Lancaster, Joseph, pedagogical talent, 101; wrote manuals of school management, 103; and British and Foreign School Society, 230
Lancasterian monitorial system, 101–107; due to talent of Bell and Lancaster, 101; work of monitors, 103; improvements provided, 104–107; in America, 241, 264–270; stimulated development of free schools, 264; cheapness of, 265; enthusiasm for, 267–269; prepared the way for taxation, 269, 327
Larson, 467
La Salle, J. B., 97–101; trained teachers, 97; wrote teachers' manuals, 99–100
Latin language, became official language of the Church, 11; used by scholars for practical purposes in Middle Ages, 18–21; books printed in, 47; textbooks of Comenius, 145
Latin schools, five medieval types, 13–15; established by medieval cities, 26–28; to train Protestant leaders, 49–50; abolished in England by Chantries Acts, 52
Leibnitz, 113
"Leonard and Gertrude," published, 284; popularity, 290; descriptions of degraded Swiss peasantry, 309; contains Pestalozzi's scheme for industrial education, 311–312; method in arithmetic, 325; method in oral expression, 330
Literature, neglected by Pestalozzians, 376; enthusiasm for Greek, in new humanism, 383–385; made basis of moral instruction by Herbart, 386–387; in Ziller's course of study, 407; in American elementary schools, 413–419; selections contained in readers, 414–416; reading of whole literary classics, 416–419; vernacular, see *Vernacular literature*
Locke, John, made psychology a phase of natural science, 120, 122; "Letters on Toleration," 125; justified English Revolution in "Treatises on Government," 130, 132; career of, 150–152; "Thoughts on Education," published in 1693, 152; principles bearing on elementary education, 153; religious instruction, 154; emphasized habit as the basis of character, 154; based method on child's activities, 155; used games, 157; used interesting storybooks, 157; influence exerted through Rousseau, 158; one source of German pedagogy, 159; mentioned, 182, 183, 205, 211, 212
Louis XIII, 124
Louis XIV, 124, 126, 127, 166
Louisa, queen of Prussia, 290
Lowell, E. J., 167
Lübeck, medieval city schools, 27, 29
Luther, leader of German Protestants, 38–39; said Bible is sole guide, 44; translated Bible, 48; advocated schools for all children, 49

McClure, W., 297
McMurry, F. and C., lessons of, illustrate extremes of questioning and lecturing, 329 n., 404; advocated Herbartian view in teaching history, 413; on use of literature in schools, 419; on formal steps of instruction, 425
Madison, Dolly, 171
Madison, James, 133
Magdeburg, Protestant schools in, 50
Malphigi, 117
Manchester, England, 229, 232, 236
Mann, Horace, 242; Secretary of Massachusetts Board of Education, 258–259; report on European schools, 299; described Prussian language lesson, 331, 347
Manual training, in Salzmann's school, 214; contrasted with Pestalozzian industrial education, 321; development in Europe and America, 460–470; Froebel one promoter of, 461; sloyd, system of, 462–464; in the United States, 464–470
Marcel, 170
Marshall, A. M., on recapitulation theory, 424
Mary, queen of England, 41
Mason, Lowell, taught Pestalozzian music, 298
Massachusetts, Puritan schools in, 55–62; followed English precedents, 55; towns established schools, 57; requirements in laws of 1642 and 1647, 58–62; development of school system, 241; degenerate district-school system, 250–259; social factors in decline of schools, 251–255; regeneration of town system, 256–259; Horace Mann, Secretary of Board of Education, 258; industrial education of apprentices in colony, 306, 487
Massachusetts Institute of Technology introduced manual training, 465
Mathematical methods in modern science, 113
Maupertuis, 128
Maxwell, W., recommended literature in place of readers, 418
Mayo, Charles, popularized Pestalozzianism in England, 296
Mayo, Elizabeth, wrote books on object lessons, 296, 333, 362, 363
Memorizing, discussed in the "Émile," 195, 197; of lists of, words recommended by Pestalozzi, 361; of English object-lesson manuals, 362–364; rules for, given by Herbart, 397–398
Metaphysics, Herbart's, a useless encumbrance to his pedagogy, 379–382
Method, general, Herbart supplemented Pestalozzian discussions of, 398–401; Herbartian steps applied to topics or whole subjects, 401; formal steps applied to topics by Ziller, 425; criticism of formal steps, 427
Methods, wasteful, in colonial schools, 90–92; improved, in schools of Christian Brethren and Lancaster, Chap. V, 94–108; of Comenius, 143
Middle Ages, elementary schools retarded in, 4–32, 487
Mills, Caleb, campaign for free schools in Indiana, 261
Monastic schools, 8, 14
Monitorial system. See *Lancasterian monitorial system*
Moral training, Pestalozzi corrected Rousseau's idea of, 275; based on history and literature, Chap. XVII, 375–429; based by Herbart on the Odyssey, 386
More, Thomas, "Utopia" of, written in Latin, 20, 36; proved circulation of English Bibles, 43; complained of Lutheran primers, 74
Morse, Jedidiah, geographies of, 85, 86, 87, 341, 409
"Mother Play," Froebel's, 448
Motives, interest, curiosity, and utility used as, in the "Émile," 201. See *Interest*
Motor expression, education through, Chap. XVIII, 431–486; Froebel's theory, 441–445; all forms emphasized by Parker, 471–474; Dewey's "occupations," 477; emphasized by modern

biological psychology, 479–483; James on, 479; Thorndike on, 480; Judd on, 481–483
Moving school of Massachusetts, 254–255
Mulcaster, Richard, 54, 90
Murray, Lindley, series of readers, 415
Music, neglected by Puritans, 68; Pestalozzian methods introduced in Boston by Lowell Mason, 298
Mutual instruction. See *Lancasterian monitorial system*

Neef, Joseph, 288; came to America, 297
Napier, 113
National Educational Association, change of name of manual-training department, 460
National Society for promoting the Education of the Poor, 232
National Teachers Association discussed object teaching and oral instruction, 332
Natural scenery, popularized by Rousseau, 177
Nature study, in Salzmann's school, 212; transition from elementary science, 338–340; *Nature Study Review* defining the movement, 339
Neuhof, Pestalozzi's experiment in industrial education at, 283, 305, 309, 310, 313
"New England Primer," 74–77, 414
"New Héloïse," 174–179
New humanism. See *Humanism, new*
New York City, development of secular schools in, 240–246; Free School Society in, 243, 244; board of education created in, 246; mentioned, 264, 266
Newberry, 414
Newton, Isaac, "Principia" published in Latin, 20, 113; inductive verification of law of universal gravitation, 115–116; Voltaire on, 122; mentioned, 151, 152
Nicæa, Council and creed, 7
Nobility, training of, 164
Normal schools, established and adopted Oswego methods, 301
Nuremberg Bible, 48

Oberschulcollegium of Prussia, 221
Object teaching. See *Pestalozzian object teaching* and *Pestalozzian formalism*
Occupations, Froebelian, 450; Dewey's, 477
Odyssey, made basis of moral instruction by Herbart, 386–387
Ohio Industrial School for Boys, pioneer on cottage plan, 320
Oliver, Henry K., described Boston schools, 88
Oral instruction, technique developed in connection with Pestalozzian object teaching, 327–331; extreme forms of, all lecturing, all questioning, 328; training in speech and composition, 329–331; in connection with arithmetic, 351. See *Pestalozzian object teaching*
"Orbis Pictus" of Comenius, 146–148
Oswego, Pestalozzian movement in, 300–302; Pestalozzian language lesson from, 331; geography teacher in, 348; criticism of methods used in, 364; mentioned, 353

Paris, University of, 16
Parker, Colonel F. W., popularized Pestalozzian-Ritter geography in the United States, 348; scheme of concentration, 421; applied Froebelian principles to elementary education, 470–474; career, 471; emphasized training in all forms of expression, 472–474; mentioned, 181, 205, 206
Parley, Peter. See *Goodrich, S. G.*
Parliamentary acts for national schools, 235–239
Paulsen, F., description of new humanism, 384
Peabody, Elizabeth, 454
Pearson, Karl, 336
Pennsylvania, colonial schools, 62–63; development of secular schools, 240, 241, 247–249; constitutional provisions for schools

for poor, 247; pauper schools authorized in special districts, 248; tax-supported schools made optional in 1834, 248
Pens, making of, and setting copies, 91–92
Periodicals, early American educational, 297–299
Perrault, 414
Pestalozzi, 270; inspired by Rousseau, 273–276; principles, 276–281; desired to psychologize education, 276–279; said spirit of home should dominate school, 279; planned to regenerate lower classes, 280; experimental methods of, 280; career in relation to Swiss social reform, 281–290; education of, 281; failure as a farmer, 283; Neuhof experiment in industrial education, 283; literary activity of, 284; at Stanz, 285–286; at Burgdorf, 286–288; at Yverdon, 289; neglected history and literature, 376; influenced Herbart, 292, 376; inspired Froebel, 292, 433; compared with Herbart on many-sided training, 390; mentioned, 181, 182, 185, 186, 193, 201, 204, 205, 206, 215, 391, 395, 398, 432, 434, 437, 438, 441, 443, 450, 488. See also *Pestalozzian movement*, *Pestalozzian industrial education*, *Pestalozzian object teaching*, and *Pestalozzian formalism*
Pestalozzian formalism, 302, 359–374; pernicious elements, 359; Herbert Spencer described English phase, 361; Dickens satirized, 363; from simple to complex, favored by Spencer, 365; included Pestalozzi's plan for alphabet in every subject, 356; Grube method in arithmetic one phase of, 369
Pestalozzian industrial education for juvenile reform, 283, 302, 304–322; summary by Barnard, 305; general appreciation of necessity of, 306; Pestalozzi's discussions of, 309; the experiment at Neuhof, 313; Fellenberg continued, 314–316; adopted in Switzerland, 316; popularized in America by Woodbridge, 317; delayed adoption of, in American reformatories, 318
Pestalozzian movement, in Europe and America, Chap. XIII, 273–303; inspired by Rousseau's books, 274; Pestalozzi's principles, 276–281; in relation to Swiss social reforms, 281–290; in Switzerland, 291; a large factor in Prussian social reform, 291–295; formalized in England, 295–296; in America, 297–302
Pestalozzian object teaching and oral instruction, 302, Chap. XV, 323–358; examples of Pestalozzi's object lessons, 325; created new technique of oral instruction, 327–331; led to development of elementary science and nature study, 331–340; included Pestalozzian-Ritter geography, 340–349; developed primary arithmetic, 349–356
Petrarch, ashamed of his sonnets, 20
Philadelphia, public pauper schools authorized in 1818, 248; used Lancasterian system, 266, 269
Philanthropinum, 211
Philosophy, Froebel's, 433
Physical training in Salzmann's school, 212
Physics, in the "Émile," 200
Picket, Albert and John, 297
Pierpont, John, series of graded readers, 416
Pike's arithmetic, 84, 90
Play of children, described by Froebel, 446; organized in the kindergarten, 448–452
Poor, to be kept in ignorance, 233
Practice. See *Curriculum* and *Methods*
Primers, developed from medieval religious manuals, 73; "New England Primer," 74; catechism most important part of, 76; replaced by spellers, 77
Printing, invention of, and the Reformation, 46–49; pamphlets stimulated popular reading, 47

Protestant church, elementary education necessary, 35; attitude toward Bible, 44
Prussia, best example of religious toleration, 125, 128; rise of, a strong secularizing force, 126–129; work of benevolent despotic Hohenzollern kings, 127; Frederick the Great cultivated Newtonian science, 128; achievements stimulated revival of German literature, 129; social reforms after defeat at Jena, 291–293
Prussian centralization feared in Massachusetts, 250
Prussian schools, secularizing of, Chap. X, 208–225; official enactments, 217–224; compulsory attendance decreed in 1717, 219; rural schools organized by Frederick the Great in 1763, 219; national council of education, 221; legal code defined as state institutions in 1794, 223; social reforms influenced by Pestalozzian methods, 291–295; general reform after defeat at Jena, 292–293; a broader elementary education established in, 293; teachers for, trained at Yverdon, 294; adopted Pestalozzian spirit and methods, 295; Pestalozzian language lessons in, described by Stowe and Mann, 330; new humanism in, 384; kindergartens prohibited in, 435, 488
Psychological versus logical organization of subject matter, in the "Émile," 199; in Harris's science course in St. Louis, 335; nature study takes psychological point of view, 338. See *Pestalozzian formalism*, *Simple to complex*
Psychologize education, Pestalozzi's endeavor to, 276
Ptolemy, 112, 113
Public school associations in England, 236
Public School Society of New York City, 244
Puritans, dominated by Calvin, 39; spiritual element in English Reformation, 41; schools of, in Massachusetts, 55–62; ascetic ideals of, in literature and art, 67–69; repression of children's activities by, 162; repressive ideals of, opposed by Rousseau, 175

Quick, H., 190

Ratke, 149
Rauhe Haus, 317
Reading, religious texts used for, 72–79; methods in Boston in 1800, 87; colonial methods, 90; simultaneous method of La Salle, 100; "Orbis Pictus" used for, 146; Locke on use of games, interesting stories, and religious books for, 157; criticism of, in the "Émile," 197; Pestalozzian synthetic methods in Prussian schools, 367; Parker's discussion of, 473. See also *Literature*
Reasoning, in the "Émile," 195, 196
Reckoning schools in medieval cities, 30
Reclus, 343
Red Hill reform school, 317
Redway and Hinman geographies, 349
Reformation, and elementary education, Chap. III, 33–65; Catholic, 36; Protestant, 36–42; in Germany, 38; in England, 40; influence on schools, 49–64, 487. See also *Religion*
Reformatories, education in. See *Pestalozzian industrial education*
Rein, W., exponent of Herbartian doctrines, 403
Religion, basis of elementary education in Reformation, Chap. III, 33–65; Comenius based educational aims on, 140; a partial aim with Locke, 154; formalism in, 162–164; Rousseau emphasized faith and inward worship in, 176; instruction in, in Salzmann's schools, 214; instruction in, in Rochow's school, 217; in German schools in nineteenth century, 406; in Froebel's theory, 435. See also *Catholic Church*, *Church*, *Reformation*

Religious formalism. See *Formalism, religious*
Religious toleration. See *Toleration, religious*
Renaissance, 164, 383
Reports on European schools, published in America, 299
Reyher, Andreas, 149, 150
Richelieu, 124, 126, 166
Richter, J. P., 438
Ritter, Karl, and the development of modern geography, 340–349; created science of geography, 343; influenced by Humboldt's work on South America, 344; influenced pedagogically by Salzmann and Pestalozzi, 344–347; taught Guyot, 347; mentioned, 201, 206, 212
Ritterakademien, 166
"Robinson Crusoe," discussed in the "Émile," 202; history of educational use of, 408, 414
Rochow, established secular schools for peasant children, 215–217; attempted to relieve distress of peasants, 215; model school included object lessons, 216; emphasized morality and national regeneration, 217; "Kinderfreund," 414; mentioned, 208, 209, 221, 224
Romantic love, idealized by Rousseau, 178
Rostock, reckoning master employed in, 30
Rousseau, chief inspirer of French Revolution, 131; expressed Locke's political theories in popular form, 132; theory of equality, 132; contributed to Encyclopedia, 123; leader of the emotional reaction, 172–180; life and character, 172–174; emotionalism the antithesis of Puritan repression, 175; substituted faith and inward worship for ceremonialism and atheism, 176; opposed social conventionality with the simple life, 177–179; "New Héloïse" popularized natural scenery, romantic love, etc., 177; influence on religion, art, literature, 179; "Émile," Chap. IX, 181–207; inspired Pestalozzi, 273–275; neglected history and literature, 376; and new humanism, 385; compared with Herbart on many-sided training, 390; mentioned, 151, 153, 158, 159, 171, 211, 212, 346, 349, 393, 395, 432, 437, 438, 439, 440, 441, 442, 445, 487, 488. See also "*Émile*"
Runkle, 465
Russell, William, advocated Lancasterian schools, 268; editor *American Journal of Education*, 297–298

St. Louis, science course in, 333–336; kindergartens in, 456; manual training in, 465
Salerno, University of, 16
Salomon, Otto, introduced sloyd in Sweden, 462–464
Salzmann, C., school of, at Schnepfenthal, 212–215; applied principles of Rousseau, 212; influenced Carl Ritter, 344–345; mentioned, 201, 206, 208, 209, 224, 367
Saxony, Protestant schools, 52
Schiller, 179, 384, 385, 386, 438
School gardening, in Salzmann's school, 214
School practice. See *Curriculum, Methods*
Schools. See *Elementary schools, Latin schools*
Science, superstitious ideas of Puritans concerning, 70; secularizing influence of modern, 111–123; Greek, accepted in Middle Ages, 111–112; seventeenth-century investigations in, discredited Greek theories, 113; modern method, inductive verification of hypotheses, 114–117; Newton and law of gravitation, 115; physiology, circulation of the blood, 116; little influence on practical affairs, 117; Francis Bacon popularized observation and experimentation, 118–119; Locke made psychology a phase of, 120; English, popularized in France by Voltaire, 121; French Encyclopedia spread spirit of, 123; enthusiastic but mistaken ideas of Comenius on, 139

Science instruction, advocated in Rousseau's "Émile," 198–201; developed from Pestalozzian object teaching, 331–341; transition in, under W. T. Harris in St. Louis in 1870, 333–336; practical value of, emphasized by Spencer, 336–338; transition to nature study, 338–340
Scottish church established schools, 61
Scudder, H. E., recommended literature in place of readers, 418
Secular interests, development of, Chap. VI, 109–134; dominated by Church, 110; relation of modern science to, 111–123; relation of religious toleration to, 124–125; relation of strong governments to, 125–129; relation of democracy to, 130–133
Secular point of view in educational theory, Chap. VII, 135–160; Comenius and Locke as examples
Secularizing Prussian schools, Chap. X, 208–225. See *Prussian schools*
Secularizing tendencies in English education, Chap. XI, 226–239. See *English education*
Sense perception, emphasized by Comenius, 139; by Rousseau, 193; by Salzmann, 212; by Rochow, 216; by Pestalozzi, 324. See *Pestalozzian object teaching*
Shaw, Mrs. Quincy, 467
Sheldon, Edward A., started Oswego movement, 300
Shelley, 179
Simple life, idealized by Rousseau, 177
Simple to complex, a phase of Pestalozzian formalism, 365–373; favored by Spencer, 365, 371; Pestalozzi would organize alphabet of every subject, 367–369; one basis of Grube method in arithmetic, 369; criticism of the theory, 371–373
Simultaneous instruction, practical use by Brethren of Christian Schools, 99
Slates, 91
Sloyd, economic basis in Finland and Sweden, 462–464; value in terms of formal discipline, 464; in Boston, 467
Smith, Adam, 233
Smith, D. E., on Pestalozzian primary arithmetic, 350; criticized Grube method, 370
Social changes in England in eighteenth century, 234
"Social Contract" of Rousseau, 132, 174, 183, 283
Social factors, in decline of Massachusetts schools, 251; those retarding development of American free schools, 263
Social participation, education by means of, Chap. XVIII, 431–486; Froebel's theory, 445–447; in the kindergarten, 452
Society for promoting Christian Knowledge, 228
Society for Propagation of the Gospel in Foreign Parts, 229, 242
Spelling book, replaced primers, 78; Dilworth's, 80; Webster's, 80
Spencer, Herbert, on practical value of natural science, 337; described English Pestalozzian formalism, 361, 362; favored simple to complex, 365, 371; analysis of life's activities, 391; on teaching history as descriptive sociology, 413; advocated recapitulation theory, 422
Stanz, massacre by French, 285; Pestalozzi's work at, 286, 309, 310
Stowe, Calvin E., report to Ohio legislature on European schools, 299; described Prussian Pestalozzian language lessons, 330; described reading lessons, 367
Sunday schools in England, 229
Support, public, for schools, in Massachusetts, 61; in Prussia, 223; in England, 235–239; in New York City, 245; in Pennsylvania, 247–249; in Indiana, 259–263; stimulated by Lancasterian system, 264–269
Sweden, sloyd in, 462
Switzerland, revolution of 1798, 285–286; Pestalozzianism, 291; farm schools like Fellenberg's in all cantons, 316
Symbolism, Froebel's theory, 439–441; emphasized with gifts, 452;

favored by Miss Blow, 456; rejected by progressive kindergartners, 457–460; Dewey's criticism, 458; Thorndike's criticism, 459

Taine's "Ancient Régime," 167–171, 184
Talleyrand, 169
Textbooks, religious character before 1800, 72–79; spellers, 80–83; colonial arithmetics, 83–84. See *Arithmetic, Geography, and other subjects*
Thirty Years' War, 67, 136
Thorndike, E. L., on formal discipline, 390; criticism of Froebelian symbolism, 459; on motor expression, speech, and inhibition, 480
Tobler, 283
Toleration, religious, 124–125
Torricelli, 114
Towns. See *Cities*
Training of teachers, in Lancasterian schools, 106
Trent, Council of, 36
Trimmer, Mrs., 230, 231

United States, Pestalozzianism in, 297–302; Neef imported, 297; reports on European schools, 297–300; Oswego movement, 300–302; Fellenberg manual-labor scheme, 317; industrial training in reformatories, 318–321; Pestalozzian-Ritter geography, 347–349; Herbartian movement, 404; teaching of history and literature, 409–419; kindergartens, 454–457. See *Indiana, Massachusetts, New York City, Pennsylvania*
Unity, in Froebel's philosophy, 433
Universities, medieval, 15–16

Vernacular education advocated for all by Comenius, 141
Vernacular language and literature, retarded in England by Latin and French, 18–23; despised by scholars, 20; oral literature did not develop vernacular schools, 23; the vernacular Bible, 42–45
Vernacular schools. See *Elementary schools*
Victoria, Queen, 237
Virginia, industrial education of apprentices, 307
Vittorino da Feltre, 166
Voltaire, career, 121; popularized English science in France, 121; esteemed Newton and Locke, 122; contrasted with Bacon, 123, 151

Waldenses, 37
Washington University, 465
Webster, Noah, description of the schools attended by, 85; on history in colonial schools, 409; speller, 80–83; "Third Part," 415
Weimar, 148
Whewell, on hypothesis, 114
Wieland, 282
Wigglesworth, "Day of Doom," 68
Wilbur, H. B., criticized Oswego methods, 302
Wilderspin, 448
William and Mary, 125, 130, 151
Winthrop, "History of New England," 57
Wolcott, 267
Wolff, Christian, 209
Woodbridge, W. C., editor *American Annals of Education*, 297–298; described Fellenberg's scheme, 314–317, 347
Wool trade, English, 24
Wordsworth, on symbolism, 440
Workingmen's School of New York, 468
Writing, colonial methods of teaching, 90–92; Pestalozzian methods of, 369
Writing schools, in medieval cities, 29; in Boston in 1800, 85
Württemberg, Protestant schools, 52
Wycliffe, 37

Yverdon, Pestalozzi's school at, 289, 290, 434

Zedlitz, 209, 221–222, 224
Ziller, Tuiskon, popularized Herbart's doctrines, 403; on use of history and literature, 405, 407–409, 421, 424
Zinzendorf, Count, 290
Zurich, educational advantages enjoyed by Pestalozzi at, 281–283

Date Due

AUG 29 1972 RETURNED			
MAR 13 1973 RETURNED			
MAY 25 1976			

Demco 38-297

LA
91
.P3, c.2

72842

LA
91
.P3
c.2

Parker, S. C.
A textbook in the history of modern elementary education.

NAME LINDA MARIE CULVER
ADDRESS
CITY
AUG 29 1972

NAME
ADDRESS
CITY
MAR 13 1973
298 48 9990

NAME
ADDRESS
ATRICIA YANIGLOS
MAY 25 1976

72842

YOUNGSTOWN STATE UNIVERSITY
LIBRARY

AUG 30 1971